```
     (FILE 'HOME' ENTERED AT 13:25:11 ON 28 SEP 1999)

     FILE 'REGISTRY' ENTERED AT 13:25:34 ON 28 SEP 1999
L1             1 S 2-HEXYL AND CYANOACRYLATE
L2           380 S CYANOACRYL?
L3            18 S CYANOACRYLIC ACID
L4             0 S CYANOACRYLIC ACID/CN
L5           338 S CYANOACRYLATE
L6             4 S HEXYL CYANOACRYLATE
L7             0 S 2-HEXYL CYANOACRYLATE
L8             1 S ACRYLIC ACID/CN
L9             1 S 2-CYANOACRYLIC ACID HEXYL ESTER
L10            1 S ETHYL MYRISTATE/CN

     FILE 'CAPLUS' ENTERED AT 13:35:24 ON 28 SEP 1999
L11            0 S L9 AND (AVM OR ARTERIOVENUS MALFORMATION# OR VASCULAR OCCLUSI
L12           30 S L9

     FILE 'STNGUIDE' ENTERED AT 13:38:47 ON 28 SEP 1999

     FILE 'MEDLINE, EMBASE, BIOSIS' ENTERED AT 13:40:50 ON 28 SEP 1999

     FILE 'REGISTRY' ENTERED AT 13:41:28 ON 28 SEP 1999
                SET SMARTSELECT ON
L13          SEL L9 1- CHEM :        6 TERMS
                SET SMARTSELECT OFF

     FILE 'MEDLINE, EMBASE, BIOSIS' ENTERED AT 13:41:29 ON 28 SEP 1999
L14           34 S L13/BI
L15            0 S L14 AND (GOLD OR (ETHYL (2A) MYRIST?))
L16            0 S L14 AND (AVM OR ARTERIOVENUS MALFORMATION# OR VASCULAR OCCLUS
L17            0 S L14 AND AVM#

     FILE 'CANCERLIT' ENTERED AT 13:44:20 ON 28 SEP 1999

     FILE 'REGISTRY' ENTERED AT 13:44:28 ON 28 SEP 1999
                SET SMARTSELECT ON
L18          SEL L9 1- CHEM :        6 TERMS
                SET SMARTSELECT OFF

     FILE 'CANCERLIT' ENTERED AT 13:44:32 ON 28 SEP 1999
L19            3 S L18/BI
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=> d his

     (FILE 'HOME' ENTERED AT 13:25:11 ON 28 SEP 1999)

     FILE 'REGISTRY' ENTERED AT 13:25:34 ON 28 SEP 1999
L1             1 S 2-HEXYL AND CYANOACRYLATE
L2           380 S CYANOACRYL?
L3            18 S CYANOACRYLIC ACID
L4             0 S CYANOACRYLIC ACID/CN
L5           338 S CYANOACRYLATE
L6             4 S HEXYL CYANOACRYLATE
L7             0 S 2-HEXYL CYANOACRYLATE
L8             1 S ACRYLIC ACID/CN
L9             1 S 2-CYANOACRYLIC ACID HEXYL ESTER
L10            1 S ETHYL MYRISTATE/CN

     FILE 'CAPLUS' ENTERED AT 13:35:24 ON 28 SEP 1999
L11            0 S L9 AND (AVM OR ARTERIOVENUS MALFORMATION# OR VASCULAR OCCLUSI
L12           30 S L9

=> d que

L9             1 SEA FILE=REGISTRY 2-CYANOACRYLIC ACID HEXYL ESTER
L12           30 SEA FILE=CAPLUS L9


=> d que l11

L9             1 SEA FILE=REGISTRY 2-CYANOACRYLIC ACID HEXYL ESTER
L11            0 SEA FILE=CAPLUS L9 AND (AVM OR ARTERIOVENUS MALFORMATION# OR
                 VASCULAR OCCLUSION#)
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FILE 'MEDLINE' ENTERED AT 14:03:31 ON 28 SEP 1999

FILE 'EMBASE' ENTERED AT 14:03:31 ON 28 SEP 1999

S L25/BI
L26 12 L25/BI

=> s l26 and l23

L27 0 L26 AND L23

=> dup rem l23

PROCESSING COMPLETED FOR L23
L28 71 DUP REM L23 (42 DUPLICATES REMOVED)

=> s cyanoacrylate# 25a (avm# or areriovenus malformation#)

MISSING OPERATOR '25A (AVM#'
The search profile that was entered contains terms or
nested terms that are not separated by a logical operator.

=> s cyanoacrylate# (25a) (avm# or areriovenus malformation#)

L29 75 CYANOACRYLATE# (25A) (AVM# OR ARERIOVENUS MALFORMATION#)

=> dup rem l29

PROCESSING COMPLETED FOR L29
L30 45 DUP REM L29 (30 DUPLICATES REMOVED)

FILE 'MEDLINE, EMBASE, BIOSIS' ENTERED AT 13:40:50 ON 28 SEP 1999

FILE 'REGISTRY' ENTERED AT 13:41:28 ON 28 SEP 1999
SET SMARTSELECT ON
L13 SEL L9 1- CHEM : 6 TERMS
SET SMARTSELECT OFF

FILE 'MEDLINE, EMBASE, BIOSIS' ENTERED AT 13:41:29 ON 28 SEP 1999
L14 34 S L13/BI
L15 0 S L14 AND (GOLD OR (ETHYL (2A) MYRIST?))
L16 0 S L14 AND (AVM OR ARTERIOVENUS MALFORMATION# OR VASCULAR OCCLUS
L17 0 S L14 AND AVM#

=> d l12 4 14 18 21 22 23 29 bib ab

L12 ANSWER 4 OF 30 CAPLUS COPYRIGHT 1999 ACS
AN 1998:155185 CAPLUS
DN 128:217110
TI Preparation of 2-cyanoacrylates as adhesives
IN Yamada, Seiji; Ando, Hiroshi; Takahashi, Noboru
PA Toa Gosei Chemical Industry Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10067729	A2	19980310	JP 1996-241406	19960823

OS CASREACT 128:217110
AB Title compds., useful as adhesives (no data), are prepd. by esterification of H2C:C(CN)CO2H with alcs. in the presence of cation-exchange resins. H2C:C(CN)CO2H (prepn. given) was treated with hexanol in the presence of Amberlyst 15 (cation-exchanger) and 1,4-C6H4(OH)2 in C6H6 at 80.degree. for 4 h to give H2C:C(CN)CO2(CH2)5Me at 93% conversion.

L12 ANSWER 14 OF 30 CAPLUS COPYRIGHT 1999 ACS
AN 1988:572277 CAPLUS
DN 109:172277
TI Cyanoacrylates and rubber activators for sealing punctures and ruptures
IN Hogen-Esch, Thieo Eltjo
PA Renbec International Corp., USA
SO Eur. Pat. Appl., 9 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 273737	A2	19880706	EP 1987-311446	19871224
	EP 273737	A3	19891213		
	R: AT, BE, CH, DE, ES, FR, GB, IT, LI, LU, NL, SE				
	US 4746544	A	19880524	US 1987-195	19870102
	JP 63175092	A2	19880719	JP 1987-314315	19871214
	BR 8706843	A	19890711	BR 1987-6843	19871216
	AU 8783169	A1	19880707	AU 1987-83169	19871231
PRAI	US 1987-195	19870102			

AB A puncture or rupture in a substrate is sealed by applying an .alpha.-cyanoacrylate ester in and around the opening and applying a layer of a powd. rubber (freshly vulcanized or reclaimed) as an activator. A slit in a neoprene rubber fuel hose and the surrounding area were coated with an alkyl .alpha.-cyanoacrylate, and the coating was covered with powd. Hycar 1422. After 10 min, the sealed slit did not leak at a pressure of 50 psi.

L12 ANSWER 18 OF 30 CAPLUS COPYRIGHT 1999 ACS

AN 1982:86012 CAPLUS
DN 96:86012
TI Synthesis and properties of ethoxyethyl and n-hexyl .alpha.-cyanacrylate adhesives
AU Konstantinov, Kh.; Novakov, P.; Kulischeva, E.; Kabaivanov, V.
CS Sci. Prod. Cent. "Sonderpolymere", Sofia, Bulg.
SO Plaste Kautsch. (1981), 28(12), 697-8
CODEN: PLKAAM; ISSN: 0048-4350
DT Journal
LA German
AB ethoxyethyl .alpha.-cyanoacrylate [21982-43-4] And hexyl .alpha.-cyanoacrylate [**3578-06-1**] were prepd. in optimum yields (74.39 and 68.24%, resp.) by reacting a 1.0:1.4 paraformaldehyde (I) [30525-89-4]-alkyl cyanoacetate mixt. in the presence 0.1% piperidine catalysts and toluene azeotrope component. Depolymn. of I was optimal in the presence of 2% fluorosulfonic acid [7789-21-1] and 1% hydroquinone. The cyanoacrylates were used to bond steel plates.

L12 ANSWER 21 OF 30 CAPLUS COPYRIGHT 1999 ACS
AN 1975:429064 CAPLUS
DN 83:29064
TI Alkyl .alpha.-cyanacrylate monomers useful as adhesives, especially in surgery
IN Regnault, Francois; Nouvellon, Marta
PA SYNPHARM, Fr.
SO Fr. Demande, 10 pp.
CODEN: FRXXBL
DT Patent
LA French
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2229688	A1	19741213	FR 1973-17482	19730515
FR 2229688	B1	19770211		

AB High yields of high purity .alpha.-cyanacrylate adhesive monomers were prepd. with reduced use of catalysts and polymn. inhibitors by polymn. of HCHO with alkyl cyanoacetates and depolymn. of the product formed under reduced pressure and anhyd. conditions. Thus, a mixt. of 6.6 g paraformaldehyde and 8 g Amberlite for D-IR (OH form) ion exchange resin was brought to reflux in 150 ml. PhMe and 33.4 g hexyl cyanoacetate was added dropwise in 5 min. P2O5 (4 g) and 0.5 g hydroquinone were added to a soln. of the polymer [55492-19-8] formed in 20 ml. PhMe and depolymn. was carried in 30 min in a current of anhyd. SO2 at 4 ml. A 70% yield of colorless, odorless, hexyl .alpha.-cyanacrylate [**3578-06-1**] was obtained after heating 90-120 min at 100-20.degree..

L12 ANSWER 22 OF 30 CAPLUS COPYRIGHT 1999 ACS
AN 1974:44502 CAPLUS
DN 80:44502
TI Comparative experimental study of the use of various tissue adhesives at skin, liver, and spleen. III. Thermodynamic properties
AU Wenning, Johannes; Geissler, Georg
CS Univ. Bonn, Bonn, Ger.
SO Polim. Med. (1973), 3(2), 153-65
CODEN: PMYMAX
DT Journal
LA German
AB From studies of the heat of polymn. evolved during use of the tissue adhesives butyl 2-cyanoacrylate [6606-65-1] and hexyl 2-cyanoacrylate [**3578-06-1**], it was concluded that coagulation necrosis produced by liberation of heat of polymn. can be avoided by correct application of the adhesive.

L12 ANSWER 23 OF 30 CAPLUS COPYRIGHT 1999 ACS
AN 1972:49919 CAPLUS

DN 76:49919
TI Experimental use o[redacted]yanoacrylic adhesives in surg[redacted]
AU Noszczyk, Wojciech; [redacted]licki, Marian; Wichrzycka, Elzbieta
CS Cent. Med. Ksztalcenia Podyplomowego, Warsaw, Pol.
SO Pol. Tyg. Lek. (1971), 26(33), 1268-70
CODEN: POLEAQ
DT Journal
LA Polish
AB Me, Et, Pr, n- and iso-Bu, hexyl, heptyl, and decyl esters of 2-cyanoacrylic adhesives were used in skin, digestive tract, blood vessels and internal organ surgery of exptl. animals. The best results were obtained with aerosol of Bu 2-cyanoacrylate to prevent hemorrhages, in other cases by adhesives applied to the dry surface of wounds.

L12 ANSWER 29 OF 30 CAPLUS COPYRIGHT 1999 ACS
AN 1968:76778 CAPLUS
DN 68:76778
TI Physiological and biochemical evaluation of implanted polymers
AU Woodward, Stephen C.
CS Georgetown Univ., Washington, D. C., USA
SO Ann. N. Y. Acad. Sci. (1968), 146(1), 225-50
CODEN: ANYAA9
DT Journal
LA English
AB Biol. reactive and absorbable polymers such alkyl-2-cyanoacrylates (I) are used as hemostatic agents and tissue splints. The histotoxicity and necrotizing properties of Me2-cyanoacrylate (II) were reviewed. The potential usefulness of a cyanoacrylate less toxic than II was examd. Hexyl, Et, Bu, octyl, and decyl 2-cyanoacrylates were prepd., stabilized with trace amts. of SO2 and hydroquinone, and used to test bond strength and vaious aspects of local histotoxicity in a rat dermis. Microscopic examns. of the bonded strips showed that disruption of the bond not only had fragmented the polymer but had also evulsed collagen fibers embedded in it. No relation between alkyl side chain length of I and bond length was shown. A comparison of the different cyanoacrylates was examd. by studying the local responses of male white rat liver after 6 hrs., 3, 7, 14, 28, and 63 days following polymer inplantation. Hexyl and decyl cyanoacrylates stimulated only a transient inflammatory response. Polyethylene disk and monomer injection studies showed than an interaction between host enzymes and II provided toxic degradation products which are responsible for histotoxicity. The quant. evaluation of cyanoacrylates as inhibitors of collagen elaboration was examd. using adult male white rats and II, hexyl, and decyl cyanoacrylates. Preweighed poly(vinyl alc.) sponges were implanted into the 4 quadrants of the abdominal wall beneath the panniculus carnosus. Control sponges were moistened with 0.9% saline, while exptl. sponge contained weighed amts. of cyanoacrylate monomer. After sacrifice, the par of sponges nearest the inguinal region was examd. histol. The hydroxyproline content of dry sponges was detd. by a modified Neuman and Logan procedure (1950). Hexyl and decyl cyanocrylates did not inhibit collagen elaboration. II was the most rapidly resorbed I and was evaluated as histotoxic. 36 references.

=> d l14 5 12 13 bib ab

L14 ANSWER 5 OF 34 MEDLINE
AN 97022702 MEDLINE
DN 97022702
TI Endovascular treatment of experimental aneurysms with liquid polymers: the protective potential of stents.
AU Szikora I; Guterman L R; Standard S C; Wakhloo A K; Hopkins L N
CS Department of Neurosurgery, State University of New York at Buffalo, USA.
SO NEUROSURGERY, (1996 Feb) 38 (2) 339-47.
Journal code: NZL. ISSN: 0148-396X.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199703
EW 19970303
AB Liquid polymers have previously been used to treat experimental and human aneurysms. However, the delivery of a liquid embolic material into the cerebral circulation involves a high risk of irreversible vessel occlusion and stroke. To evaluate methods for the safe and effective treatment of experimental aneurysms with liquid polymer injection, we tested four different techniques to deliver cellulose acetate polymer (CAP) or N-hexyl-cyanoacrylate into canine side-wall carotid artery aneurysms. The animals were observed for 1 to 10 weeks after treatment. Two aneurysms were treated without protection of the distal circulation, one with CAP and another with N-hexyl-cyanoacrylate. In four cases, an angioplasty balloon was inflated within the parent artery during endosaccular injection of CAP. In two of these cases, the balloon was placed adjacent to the aneurysm orifice, resulting in simultaneous occlusion of both the aneurysm and the parent artery, and in the other two cases, the balloon was positioned proximal to the aneurysm, resulting in temporary flow arrest. Three aneurysms were treated with either CAP or N-hexyl-cyanoacrylate after implantation of a balloon-expandable tantalum stent within the parent artery across the aneurysm orifice. Complete angiographic obliteration was achieved in all but one case. One aneurysm ruptured. Another partially occluded aneurysm reopened 10 weeks after treatment. In all cases treated without stents, distal migration of the polymer resulted in either stenosis or occlusion of the parent arteries. The combination of stent implantation and polymer injection resulted in permanent aneurysm occlusion without detectable polymer migration. An intravascular stent deployed within the parent artery across the aneurysm orifice acted as a safety net during endosaccular polymer injection by allowing blood to flow from the aneurysm cavity while preventing distal migration of liquid polymer.

L14 ANSWER 12 OF 34 MEDLINE
AN 85120846 MEDLINE
DN 85120846
TI Preparation and in vivo studies of a new drug delivery system. Nanoparticles of alkylcyanoacrylate.
AU Maincent P; Devissaguet J P; LeVerge R; Sado P A; Couvreur P
SO APPLIED BIOCHEMISTRY AND BIOTECHNOLOGY, (1984) 10 263-5.

Journal code: 6KJ. ISSN: 0273-2289.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198505
AB Polyhexylcyanoacrylate nanoparticles have been prepared with vincamine as the model drug. These particles had an average size of 200 nm and adsorbed approximately 43% of vincamine. The adsorption of vincamine to nanoparticles modified the distribution of vincamine in tissues. After iv injection the distribution volumes were increased in comparison with an aqueous solution of drug. In comparison with an aqueous solution of drug, the absolute bioavailability of vincamine was also increased after an oral administration of nanoparticles.

L14 ANSWER 13 OF 34 MEDLINE
AN 84292031 MEDLINE
DN 84292031
TI Tissue distribution of poly(**hexyl 2-cyanoacrylate**) nanoparticles coated with monoclonal antibodies in mice bearing human tumor xenografts.
AU Illum L; Jones P D; Baldwin R W; Davis S S
SO JOURNAL OF PHARMACOLOGY AND EXPERIMENTAL THERAPEUTICS, (1984 Sep) 230 (3) 733-6.
Journal code: JP3. ISSN: 0022-3565.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198412
AB The tissue distribution of naked and either normal immunoglobulin G or monoclonal antibody (antitumor osteogenic sarcoma)-coated poly(**hexyl-2-cyanoacrylate**) nanoparticles was studied in mice bearing human tumor xenografts to evaluate the applicability of the systems for tumor targeting. All systems were shown to deposit mainly in the liver and spleen and no significant uptake was found in the tumors for either the naked or antibody-coated nanoparticles.

FILE 'CANCERLIT' ENTERED AT 13:44:32 ON 28 SEP 1999

S L18/BI
L19 3 L18/BI

=> d 1-3 bib ab

L19 ANSWER 1 OF 3 CANCERLIT
AN 90149214 CANCERLIT
DN 90149214
TI [Nanoparticles of doxorubicin: colloidal vectors in the treatment of hepatic metastases in animals].
Nanoparticules de doxorubicine: vecteurs colloidaux dans le traitement des metastases hepatiques chez l'animal.
AU Chiannilkulchai N; Driouich Z; Benoit J P; Parodi A L; Couvreur P
CS Laboratoire de pharmacie galenique et biopharmacie, faculte de pharmacie, universite de Paris XI, France.
SO BULLETIN DU CANCER, (1989). Vol. 76, No. 8, pp. 845-8.
Journal code: BDZ. ISSN: 0007-4551.
DT Journal; Article; (JOURNAL ARTICLE)
FS MEDL; L; Priority Journals; Cancer Journals
LA French
OS MEDLINE 90149214
EM 199004

L19 ANSWER 2 OF 3 CANCERLIT
AN 86199608 CANCERLIT
DN 86199608
TI Distribution of polyhexyl cyanoacrylate nanoparticles in nude mice bearing human osteosarcoma.
AU Gipps E M; Arshady R; Kreuter J; Groscurth P; Speiser P P
SO JOURNAL OF PHARMACEUTICAL SCIENCES, (1986). Vol. 75, No. 3, pp. 256-8.
Journal code: JO7. ISSN: 0022-3549.
DT Journal; Article; (JOURNAL ARTICLE)
FS MEDL; L; Priority Journals
LA English
OS MEDLINE 86199608
EM 198607
AB [14C]Polyhexyl cyanoacrylate nanoparticles (PHCA), with diameters between 200 and 300 nm, were injected intravenously into nude mice bearing a human osteosarcoma. The distribution in liver, spleen, lung, heart, kidney, GI tract, gonads, brain, muscle, as well as in serum and transplanted tumor fragments was investigated by liquid scintillation counting. The peak levels in all organs with the exception of tumor and spleen were reached within 24 h. The highest levels were found in the organs of the reticuloendothelial system, liver, spleen, and lungs. The radioactivity in the other organs was found to be low, approximately 2%. In the tumor and the spleen the highest levels of radioactivity were found at approximately 7 d. At this stage the level of radioactivity in the tumor was 40 times higher than that in muscle. However, the amount of isotope detected in the tumor was still generally less than 1% of the injected dose. The concentration of radioactivity in the tumor was found to be quite variable. Higher levels of radioactivity were correlated with a low amount

of tumor necrosis indicating the importance of viable tumor tissue for the accumulation of the [redacted]olabel in this particular an[redacted]model.

L19 ANSWER 3 OF 3 CANCERLIT
AN 84292031 CANCERLIT
DN 84292031
TI Tissue distribution of poly(**hexyl 2-cyanoacrylate**) nanoparticles coated with monoclonal antibodies in mice bearing human tumor xenografts.
AU Illum L; Jones P D; Baldwin R W; Davis S S
SO JOURNAL OF PHARMACOLOGY AND EXPERIMENTAL THERAPEUTICS, (1984). Vol. 230, No. 3, pp. 733-6.
Journal code: JP3. ISSN: 0022-3565.
DT Journal; Article; (JOURNAL ARTICLE)
FS MEDL; L; Priority Journals
LA English
OS MEDLINE 84292031
EM 198411
AB The tissue distribution of naked and either normal immunoglobulin G or monoclonal antibody (antitumor osteogenic sarcoma)-coated poly(**hexyl-2-cyanoacrylate**) nanoparticles was studied in mice bearing human tumor xenografts to evaluate the applicability of the systems for tumor targeting. All systems were shown to deposit mainly in the liver and spleen and no significant uptake was found in the tumors for either the naked or antibody-coated nanoparticles.

=> d 1-45 bib ab

L30 ANSWER 1 OF 45 MEDLINE DUPLICATE 1
AN 1999215500 MEDLINE
DN 99215500
TI Adenosine-induced cardiac pause for endovascular embolization of cerebral arteriovenous malformations: technical case report.
AU Pile-Spellman J; Young W L; Joshi S; Duong H; Vang M C; Hartmann A; Kahn R A; Rubin D A; Prestigiacomo C J; Ostapkovich N D
CS Department of Radiology, College of Physicians and Surgeons, Columbia University, New York, New York, USA.
NC RO1 NS27713 (NINDS)
RO1 NS34949 (NINDS)
SO NEUROSURGERY, (1999 Apr) 44 (4) 881-6; discussion 886-7.
Journal code: NZL. ISSN: 0148-396X.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199909
EW 19990902
AB OBJECTIVE: Extremely high flow through arteriovenous malformations (AVMs) may limit the safety and effectiveness of endovascular glue therapy. To achieve a more controlled deposition of glue, we used transient but profound systemic hypotension afforded by an intravenously administered bolus of adenosine to induce rapidly reversible high-degree atrioventricular block. METHODS AND CASE REPORT: A patient with a large high-flow occipital **AVM** fed primarily by the posterior cerebral artery underwent n-butyl **cyanoacrylate** glue embolization. Nitroprusside-induced systemic hypotension did not adequately reduce flow through the nidus, as determined by contrast injection in the feeding artery. In a dose-escalation fashion, boluses of adenosine were administered to optimize the dose and verify that there was no flow reversal in the AVM and no other unexpected hemodynamic abnormalities by arterial pressure measurements and transcranial Doppler monitoring of the posterior cerebral artery feeding the AVM. Thereafter, 64 mg of adenosine was rapidly injected as a bolus to provide 10 to 15 seconds of systemic hypotension (approximately 20 mm Hg). Although there were conducted beats and some residual forward flow through the **AVM** during this time, the mean systemic and feeding artery pressures were roughly similar and remained relatively constant. A slow controlled injection of n-butyl **cyanoacrylate** glue was then performed, with excellent filling of the nidus. CONCLUSION: Adenosine-induced cardiac pause may be a viable method of partial flow arrest in the treatment of cerebral AVMs. Safe, deep, and complete embolization with a permanent agent may increase the likelihood of endovascular therapy's being curative or may further improve the safety of microsurgical resection.

L30 ANSWER 2 OF 45 EMBASE COPYRIGHT 1999 ELSEVIER SCI. B.V.
AN 1999309104 EMBASE
TI Treatment of mandibular arteriovenous malformation by transvenous embolization: A case report.
AU Kiyosue H.; Mori H.; Hori Y.; Okahara M.; Kawano K.; Mizuki H.

CS Dr. H. Kiyosue, Department of Radiology, Oita Medical University, 1-1 Hasama, Oita, Japan
SO Head and Neck, (1999) 21/6 (574-577).
Refs: 17
ISSN: 1043-3074 CODEN: HEANEE
CY United States
DT Journal; Article
FS 011 Otorhinolaryngology
014 Radiology
LA English
SL English
AB Background. Arteriovenous malformations (AVMs) of the mandible are relatively rare and potentially life-threatening lesions. Treatment is usually difficult. This study presents a case with high-flow AVM of the mandible in which most of the AVM were occluded by transvenous coil embolization. Methods. Transvenous embolization using several size 57 microcoils and 3 Gianturco coils was performed through a right femoral vein access. The small residual **AVM** was occluded by superselective transarterial injection of **cyanoacrylate**. Results. Angiography after embolization showed almost complete obliteration of **AVM**. Panoramic radiograph 2 years after treatment confirmed reossification. There was no recurrence of the symptoms in a follow-up evaluation 2 years later. Conclusion. Transvenous coil embolization may be a safer and more effective method in the treatment of mandibular AVM.

L30 ANSWER 3 OF 45 EMBASE COPYRIGHT 1999 ELSEVIER SCI. B.V.
AN 1999140589 EMBASE
TI Progressive bilateral homonymous visual field defects caused by a left hemisphere arteriovenous malformation: Resolution after embolization.
AU Blake P.Y.; Miller N.R.
CS Dr. N.R. Miller, Maumenee B-109, Johns Hopkins Hospital, 600 North Wolfe Street, Baltimore, MD 21287, United States
SO Neuro-Ophthalmology, (1999) 21/1 (17-23).
Refs: 11
ISSN: 0165-8107 CODEN: NRPHDN
CY Netherlands
DT Journal; Article
FS 008 Neurology and Neurosurgery
012 Ophthalmology
LA English
SL English
AB Intracranial supratentorial arteriovenous malformations (AVMs) cause neurologic and visual deficits by a variety of mechanisms, mainly hemorrhage and seizures, but also compression, and, rarely, ischemia. In most cases, the deficits are on the side opposite the malformation. We present the case of a patient with a left hemisphere **AVM** who developed bilateral homonymous visual field defects. The patient subsequently underwent two embolizations of the **AVM** using N-butyl **cyanoacrylate** glue, resulting in almost complete resolution of the visual field defects. We conclude that some supratentorial **AVMs** produce visual and neurologic deficits by secondary effects on the contralateral hemisphere. In such cases, treatment of the AVM may result in resolution of the deficits.

L30 ANSWER 4 OF 45 EMBASE COPYRIGHT 1999 ELSEVIER SCI. B.V.
AN 1998374545 EMBASE
TI [Anaesthesiological management of patients with arteriovenous malformafions (AVMs) undergoing neuroradiological intervention]. ANASTHESIOLOGISCHES MANAGEMENT BEI PATIENTEN MIT ARTERIOVENOSEN MALFORMATIONEN (AVM) IN DER INTERVENTIONELLEN NEURORADIOLOGIE.
AU Jaeger K.; Ruschulte H.; Heine J.; Leuwer M.; Piepenbrock S.
CS Dr. K. Jaeger, Zentrum Anasthesiologie, Medizinische Hochschule Hannover, Carl-Neuberg-Strasse 1, D-30625 Hannover, Germany
SO Anasthesiologie und Intensivmedizin, (1998) 39/10 (501-504).

Refs: 21
ISSN: 0170-5334 CO ANIMD2
CY Germany
DT Journal; Article
FS 008 Neurology and Neurosurgery
024 Anesthesiology
LA German
SL English; German
AB Intracranial arteriovenous malformations (AVM) present with neurological symptoms like headache, focal and general convulsions or disordered vigilance mainly caused by bleeding or infarction. The treatment of **AVMs** consists of neurosurgery, radiosurgery or interventional neuroradiology: Vessels feeding or draining an **AVM** convolute are an occluded selectively by N-butyl **cyanoacrylate** or platinum coils, probably neccessitating several interventional sessions. Neuroradiological treatment of arteriovenous malformations has been remarkably improved over recent years. Endovascular embolisation can be performed under sedation or general anaesthesia. With respect to the delicate anatomic and pathophysiological condition of AVMs, appropriate periinterventional anaesthesiological monitoring and treatment have to be chosen. Intracranial haemodynamics and brain metabolism may not be irritated by drugs and anaesthesia management: For early neurological assessment patients should be wide awake once neuroradiological procedures are finished. Central nervous functions should be monitored postoperatively in an intermediate care or intensive care unit. Basically, principles of neurosurgical anaesthesia can be transferred to anaesthesia management of patients undergoing neuroradiological procedures.

L30 ANSWER 5 OF 45 MEDLINE DUPLICATE 2
AN 1999251313 MEDLINE
DN 99251313
TI Embolization of cerebral arteriovenous malformations (AVMs)--material selection, improved technique, and tactics in the initial therapy of cerebral AVMs.
AU Goto K; Uda K; Ogata N
CS Interventional Neuroradiology, Iizuka Hospital, Fukuoka.
SO NEUROLOGIA MEDICO-CHIRURGICA, (1998) 38 Suppl 193-9.
Journal code: NYD. ISSN: 0470-8105.
CY Japan
DT Journal; Article; (JOURNAL ARTICLE)
LA English
EM 199911
EW 19991103
AB Successful embolization can be achieved only when the following three factors are correct and in co-operation: catheter tip position, flow control, and the setting time of normal-butyl **cyanoacrylate** (NBCA). Otherwise, the procedure may end with unsatisfactory results or complications. The current principle of safe and efficient embolization of cerebral arteriovenous malformation (**AVM**) is based on superselective cannulation of every strategically important feeding pedicle and injection of liquid embolic material under flow control. This study was based upon our experiences of embolizing 92 cases with cerebral AVM performed under the above conditions at our department. Results showed very encouraging new observations with implications for further procedures: total removal of the AVM nidus after embolization was achieved in 90% of the cases, preradiosurgical embolization achieved 52% volume reduction and successfully maneuvered all cases into the gamma knife focal spot. Recently improved microcatheters with increased flexibility and minimal friction made it possible to place the tip of the microcatheter into the nidus with a higher success rate and better safety factors. In order to obliterate a substantial amount of the AVM nidus and prevent penetration into the draining veins, the creation of optimal flow status, and optimal setting time of NBCA have paramount importance.

L30 ANSWER 6 OF 45 EMBASE

AN 1999007141 EMBASE
TI Embolization of cer[redacted]l arteriovenous malformations [redacted]enhance the success of subsequen[redacted] radiosurgery.
AU Miyachi S.; Tanaka T.; Kobayashi T.; Kida Y.; Negoro M.; Okamoto T.; Yoshida J.
CS Dr. S. Miyachi, Department of Neurosurgery, Nagoya University Medical School, 65 Tsurumai-cho, Showa-ku, Nagoya 466-8550, Japan
SO Interventional Neuroradiology, (1998) 4/SUPPL. 1 (121-126).
Refs: 21
ISSN: 1123-9344 CODEN: INEUFS
CY Italy
DT Journal; Conference Article
FS 008 Neurology and Neurosurgery
014 Radiology
LA English
SL English
AB We studied angiographic changes in embolized arteriovenous malformations (AVMs) by comparing pre- and postembolization angiograms and angiograms preceding radiosurgery. This study sought factors determining the usefulness of embolization as a pretreatment to enhance the success of subsequent radiosurgery. Thirty patients with cerebral **AVMs** treated in this manner over 4 years were studied. In these cases **AVMs** were embolized with **cyanoacrylate** and were treated with Gamma-knife radiosurgery. The mean size of the **AVM** nidus was reduced by a fraction of seven following embolization. The subsequent angiogram for planning radiosurgery showed further nidus reduction in 10 AVMs, no change in 12, and regrowth in 8. In all size-reduction cases the nidus was sufficiently packed, and 2 AVMs had thrombosed completely before radiosurgery. All the regrowing AVMs were of diffuse type; 6 were associated with already-developed leptomeningeal channels, and the remaining 3 were fed by newly sprouted meningeal feeders. Five AVMs disappeared following radiosurgery, all representing size-reduction or no-change cases. Analysis of cases with regrowth showed increased risk of that event with feeder occlusion of a multi-axially supplied AVM, lack of reduction of shunt flow, or remaining meningeal feeders. On the other hand, when embolization as pretreatment prior to radiosurgery succeeds in producing a small, compacted, plexiform nidus with slow shunt flow, it furthers the likelihood of successful radiosurgery. Nidus embolization and occlusion of fistulous and meningeal feeders are mandatory, while proximal feeder occlusion and use of embolic materials which risk recanalization should be avoided to prevent nidus regrowth.

L30 ANSWER 7 OF 45 MEDLINE
AN 97426142 MEDLINE
DN 97426142
TI Arteriovenous malformation model for training and research.
AU Kerber C W; Hecht S T; Knox K
CS Department of Radiology, University of California, San Diego, Medical Center, 92103, USA.
SO AJNR. AMERICAN JOURNAL OF NEURORADIOLOGY, (1997 Aug) 18 (7) 1229-32.
Journal code: 3AG. ISSN: 0195-6108.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199712
EW 19971204
AB PURPOSE: To develop an arteriovenous malformation (AVM) model for teaching embolization techniques and for researching and developing new interventional devices. METHODS: Open pore cellulose sponges 2 to 5 cm in diameter were coated with a watertight elastomer. One to three afferent tubes (arteries) and one large efferent tube (vein) allowed insertion of the model into a circuit of pulsatile, flowing, non-Newtonian fluid. Using fluoroscopy and angiographic imaging, five neuroradiologists practiced occluding the **AVM** nidus with a variety of techniques and

cyanoacrylate mixtures. RESULTS: The model appeared and behaved like a human brain [redacted] Attempts to teach liquid adhe[redacted]e techniques were successful, and though they were stressful for the trainee, failure had none of the disastrous sequelae that attend training with human subjects. CONCLUSION: The **AVM** training and research model is of value in introducing physicians to the techniques needed for endovascular **cyanoacrylate** therapy: it allows users to develop skills at their own rates, and permits safe "failure-mode" learning.

L30 ANSWER 8 OF 45 MEDLINE DUPLICATE 3
AN 97322080 MEDLINE
DN 97322080
TI Nontoxic embolic liquids for treatment of arteriovenous malformations.
AU Kazekawa K; Iwata H; Shimozuru T; Sampei K; Sakaki N; Morikawa N; Matsuda S; Ikada Y
CS Department of Neurosurgery, Fukuoka Tokushukai Medical Center, Japan.
SO JOURNAL OF BIOMEDICAL MATERIALS RESEARCH, (1997 Summer) 38 (2) 79-86. Journal code: HJJ. ISSN: 0021-9304.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199710
EW 19971002
AB Interventional radiology is becoming one of the standard treatments of arteriovenous malformation (**AVM**). **Cyanoacrylate** derivatives and polymer solutions are widely used to occlude the **AVM** nidus by their injection through a catheter, but they are far from satisfactory embolic liquids. For instance, **cyanoacrylate** derivatives sometimes glue the catheter to the artery, resulting in serious complications; in addition, the organic solvents used to dissolve polymers cause damage to the surrounding brain tissue of the AVM. Therefore, we attempted to develop embolic liquids by dissolving poly(2-hydroxyethyl methacrylate-co-methyl methacrylate) in Iopamiron with an addition of a small amount of ethyl alcohol. This new embolic liquid is not cytotoxic and is easily injected into the AVM through a thin, long catheter to effectively occlude the AVM.

L30 ANSWER 9 OF 45 MEDLINE DUPLICATE 4
AN 97038011 MEDLINE
DN 97038011
TI The effect of arteriovenous malformations on the distribution of intracerebral arterial pressures.
AU Fogarty-Mack P; Pile-Spellman J; Hacein-Bey L; Osipov A; DeMeritt J; Jackson E C; Young W L
CS Department of Anesthesiology, College of Physicians and Surgeons, Columbia University, New York, NY 10032, USA.
NC RO1-NS27713 (NINDS)
RO1-NS34949 (NINDS)
SO AJNR. AMERICAN JOURNAL OF NEURORADIOLOGY, (1996 Sep) 17 (8) 1443-9. Journal code: 3AG. ISSN: 0195-6108.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199705
EW 19970503
AB PURPOSE: To examine the distribution of arterial hypotension surrounding arteriovenous malformations (AVMs) using a standardized system of vascular zones. METHODS: Mean arterial pressures were recorded during superselective cerebral angiography in 96 patients with AVMs (before they underwent liquid polymer embolization) with the use of a system of vascular zones: E = extracranial internal carotid or vertebral artery; I = intracranial internal carotid or basilar artery; T = transcranial Doppler insonation site (A1, P1, M1); H = halfway to feeder, perfusing normal

tissue and shunt; and F = feeder at site of N-butyl **cyanoacrylate** injection. Distal arterial pressure was measured contralateral to the **AVM** in an additional 12 patients (zone Hc). RESULTS: Zone pressures (mm Hg +/- SD) were E = 76 +/- 16, I = 69 +/- 15, T = 59 +/- 16, H = 47 +/- 13, and F = 39 +/- 15 mm Hg. Vessel/systemic ratios for the zones were E = 0.97 +/- 0.05, I = 0.86 +/- 0.08, T = 0.75 +/- 0.12, H = 0.61 +/- 0.13, and F = 0.50 +/- 0.18. Measurements were obtained in 29 patients in all five zones and all had similar mean values. Zone Hc pressure was 66 +/- 17 mm Hg and the ratio was 0.78 +/- 0.12, both greater than zone H values. CONCLUSION: Using a standardized system of anatomic vascular zones, we found a progressive and significant decrease in intracerebral arterial pressure in patients with AVMs that proceeded from the circle of Willis to the nidus. Large areas of parenchyma sharing the same parent arterial supply may be subject to chronic hypotension.

L30 ANSWER 10 OF 45 MEDLINE DUPLICATE 5
AN 97025529 MEDLINE
DN 97025529
TI Repermeation of partially embolized cerebral arteriovenous malformations: a clinical, radiologic, and histologic study.
AU Gruber A; Mazal P R; Bavinzski G; Killer M; Budka H; Richling B
CS Department of Neurosurgery, University of Vienna (Austria).
SO AJNR. AMERICAN JOURNAL OF NEURORADIOLOGY, (1996 Aug) 17 (7) 1323-31.
Journal code: 3AG. ISSN: 0195-6108.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199703
EW 19970303
AB PURPOSE: To describe the pattern and time course of embolization-related tissue lesions and repermeation of the intranidal cast after endovascular embolization of cerebral arteriovenous malformations (**AVMs**) with N-butyl **cyanoacrylate** (NBCA). METHODS: We retrospectively reviewed the records of 26 patients who were treated by endovascular embolization with NBCA and subsequent surgical extirpation to look for embolization-related tissue lesions and repermeation of the cast. A residual flow through the malformation was identified on preoperative angiograms in every case. RESULTS: Pattern and time course of embolization-related tissue lesions were typical. Until 3 months after embolization, repermeation of embolized structures did not occur. In contrast, repermeation was found in every patient who had surgery later than 3 months after the first embolization (n = 13; 50%). In these cases, histologic examination of the resected nidus disclosed capillary structures inside the lumen of embolized vessels. Capillaries were traced immunohistochemically with antibodies against membrane-bound factor VIII. No parameter other than the interval between the first embolization and surgery was found to relate to the repermeation of the cast. CONCLUSION: Intranidal recapillarization can occur later than 3 months after the first embolization with NBCA if total and solid casting of the nidus was not accomplished.

L30 ANSWER 11 OF 45 MEDLINE DUPLICATE 6
AN 97037610 MEDLINE
DN 97037610
TI Successful management of a giant spinal arteriovenous malformation with multiple communications between primitive arterial and venous structures by embolization: report of a case.
AU Kuga T; Esato K; Zempo N; Fujioka K; Harada M; Furutani A; Akiyama N; Toyota S; Fujita Y
CS First Department of Surgery, Yamaguchi University School of Medicine, Japan.
SO SURGERY TODAY, (1996) 26 (9) 756-9.
Journal code: BFY. ISSN: 0941-1291.
CY Japan

DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199704
EW 19970401
AB A 47-year-old woman was admitted to our hospital with a giant spinal arteriovenous malformation (AVM) causing heart failure and thoracic myelopathy. Angiography revealed that the spinal AVM had multiple feeding vessels branching from the 5th through 12th intercostal arteries. The drainage vein flowed to the azygos vein and superior vena cava. The **AVM** destroyed the 7th thoracic vertebra. The cardiac output was 16.7l/min and the shunt ratio was 64% before treatment. Embolization with **cyanoacrylate** was performed because the operation was considered to be associated with a significant risk of paraplegia and organ ischemia. The cardiac output decreased to 11.6l/min and the shunt ratio was reduced to 32%. After embolization the patient demonstrated no symptoms of either heart failure or sensory deficits. During embolization, provocative tests using sodium amytal and lidocaine with magnetic stimulation were also performed. The above findings suggest that provocative tests and magnetic stimulation are useful to predict paraplegia, which could result from embolization while, in addition, embolization is considered to be a useful treatment for multiple shunt and nidus in this region.

L30 ANSWER 12 OF 45 MEDLINE
AN 97090641 MEDLINE
DN 97090641
TI Pulmonary embolism following embolization of an arteriovenous malformation.
AU Carapiet D A; Stevens J E
CS Nuffield Department of Anaesthetics, John Radcliffe Hospital, Oxford, UK.
SO PAEDIATRIC ANAESTHESIA, (1996) 6 (6) 491-4.
Journal code: CG8. ISSN: 1155-5645.
CY France
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199705
EW 19970502
AB The case of a 12-year-old girl who suffered a severe intracranial bleed secondary to a large arteriovenous malformation (**AVM**) is described. Following investigation the appropriate treatment was considered to be embolization of the **AVM**, under general anaesthesia, using N-butyl **cyanoacrylate** (NBCA). During the procedure acute desaturation and pulmonary oedema occurred secondary to accidental pulmonary embolization with NBCA. The management of the procedure and subsequent clinical course is reported and available literature reviewed.

L30 ANSWER 13 OF 45 MEDLINE DUPLICATE 7
AN 96376455 MEDLINE
DN 96376455
TI Treatment of high-flow vascular malformations by venous embolization aided by flow occlusion techniques.
AU Jackson J E; Mansfield A O; Allison D J
CS Department of Diagnostic Radiology, Royal Postgraduate Medical School, Hammersmith Hospital, Du Cane Road, London W12 OHS, UK.
SO CARDIOVASCULAR AND INTERVENTIONAL RADIOLOGY, (1996 Sep-Oct) 19 (5) 323-8.
Journal code: COM. ISSN: 0174-1551.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199701
AB PURPOSE: Transvenous embolization techniques may be helpful as alternatives to the arterial route when treating high-flow vascular

malformations. We present our experience using these techniques in four patients. METHODS: In one patient the venous portion of the arteriovenous malformation (AVM) was punctured directly; in the other three patients it was catheterized via a retrograde venous approach. Flow occlusion techniques were utilized in all patients during embolization, which was performed with absolute alcohol or N-butyl-2-**cyanoacrylate**. RESULTS: Excellent clinical and angiographic results were obtained, with obliteration of arteriovenous shunting in all patients. There were no complications. CONCLUSION: The embolization of certain **AVMs** using a venous approach is a safe and effective treatment.

L30 ANSWER 14 OF 45 MEDLINE DUPLICATE 8
AN 96281929 MEDLINE
DN 96281929
TI Treatment of brain arteriovenous malformations by embolization and radiosurgery [see comments].
CM Comment in: J Neurosurg 1997 Feb;86(2):318-9; discussion 320-1
Comment in: J Neurosurg 1997 Feb;86(2):319-20; discussion 320-1
AU Gobin Y P; Laurent A; Merienne L; Schlienger M; Aymard A; Houdart E; Casasco A; Lefkopoulos D; George B; Merland J J
CS Service de Neuroradiologie and Neurochirurgie, Hopital Lariboisi`ere, Paris, France.
SO JOURNAL OF NEUROSURGERY, (1996 Jul) 85 (1) 19-28.
Journal code: JD3. ISSN: 0022-3085.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals; Cancer Journals
EM 199610
AB Embolization was used to reduce the size of brain arteriovenous malformations (AVMs) prior to radiosurgical treatment in 125 patients who were poor surgical candidates or had refused surgery. Of these patients, 81% had suffered hemorrhage, and 22.4% had undergone treatment at another institution. According to the Spetzler-Martin scale, the AVMs were Grade II in 9.6%, Grade III in 31.2%, Grade IV in 30.4%, and Grades V to VI in 28.8% of the cases. Most embolizations were performed using cyanoacrylate delivered by flow-guided microcatheters. Radiosurgery was performed using a linear accelerator in 62 patients treated by the authors, and 34 patients were treated at other institutions using various methods. Embolization produced total occlusion in 11.2% of AVMs and reduced 76% of AVMs enough to allow radiosurgery. Radiosurgery produced total occlusion in 65% of the partially embolized AVMs (79% when the residual nidus was < 2 cm in diameter). Embolizations resulted in a mortality rate of 1.6% and a morbidity rate of 12.8%. No complications were associated with radiosurgery. The hemorrhage rate for partially embolized **AVMs** was 3% per year. No patient with a completely occluded **AVM** experienced rehemorrhage. Angiographic follow-up review of **AVMs** embolized with **cyanoacrylate** demonstrated a 11.8% revascularization rate, occurring within 1 year. It is concluded that after partial embolization with **cyanoacrylate**, the risk of hemorrhage from the residual nidus is comparable to the natural history of **AVMs** and that the residual nidus can be irradiated with results almost as good as for a native AVM of the same size.

L30 ANSWER 15 OF 45 MEDLINE DUPLICATE 9
AN 95396409 MEDLINE
DN 95396409
TI Treatment of facial arteriovenous malformation.
AU Murase S; Kaku Y; Yamada J; Nokura H; Miwa Y; Ohkuma A; Yamada H
CS Department of Neurosurgery, Prefectural Gifu Hospital..
SO NO SHINKEI GEKA. NEUROLOGICAL SURGERY, (1995 Aug) 23 (8) 733-8.
Journal code: NYV. ISSN: 0301-2603.
CY Japan
DT Journal; Article; (JOURNAL ARTICLE)
LA Japanese

FS Priority Journals
EM 199512
AB Arteriovenous malformations (AVMs) of the face are notoriously difficult lesions to manage because of the abundant vascular network in this region. We report three cases in which AVMs of the face were treated with endovascular embolization. Two cases with small **AVM** of the face and auricle were treated with direct puncture of the nidus and embolization with a small amount of n-butyl-**cyanoacrylate** (NBCA). In the third patient with a large **AVM** of the cheek, the external carotid artery (ECA) of which had been previously ligated surgically, percutaneous direct puncture of the ECA was performed. Superselective catheterization of each of the feeding arteries and embolization with a small amount of NBCA was then achieved. All cases demonstrated clinical and angiographical improvement. In two cases with a small AVM of the face and auricle, complete obstruction of the nidus was achieved. Direct puncture of the nidus and embolization with a small amount of NBCA was a safe and effective technique for the treatment of facial AVM.

L30 ANSWER 16 OF 45 MEDLINE DUPLICATE 10
AN 95208530 MEDLINE
DN 95208530
TI Symptomatic pulmonary complications from liquid acrylate embolization of brain arteriovenous malformations.
AU Pelz D M; Lownie S P; Fox A J; Hutton L C
CS Department of Diagnostic Radiology, University Hospital, University of Western Ontario, Canada..
SO AJNR. AMERICAN JOURNAL OF NEURORADIOLOGY, (1995 Jan) 16 (1) 19-26. Journal code: 3AG. ISSN: 0195-6108.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199506
AB PURPOSE: To describe symptomatic pulmonary emboli from brain arteriovenous malformation embolization with liquid acrylates and to analyze the reasons for these complications and describe preventive techniques. METHODS: The clinical records of 182 patients embolized with acrylate glue since 1978 for treatment of brain **AVMs** were searched for evidence of symptomatic pulmonary complications. Originally iso-butyl-2-**cyanoacrylate** and more recently n-butyl-2-**cyanoacrylate** were used in all patients. Arteriovenous malformation morphology, amounts and techniques of glue injection, and clinical and radiologic investigations in the symptomatic patients were recorded. RESULTS: Three patients had pulmonary symptoms within 48 hours of glue injection. One patient with a left frontal arteriovenous malformation had embolization with an isobutyl-2-cyanoacrylate/pantopaque/acetic acid mixture; severe pleuritic chest pain developed 2 days later. One patient with a left temporal and one with a left cerebellar arteriovenous malformation had embolization with n-butyl-2-cyanoacrylate/lipiodol mixtures; a cough, pleuritic chest pain, and bloody sputum developed in both within 24 hours. Two patients experienced a significant drop in PO2. No flow-arrest techniques were used for any of the injections in these three patients. All patients demonstrated significant changes on chest x-ray and CT chest examinations. All were treated conservatively and recovered spontaneously. CONCLUSIONS: Symptomatic pulmonary complications can occur after acrylate glue injection, particularly when delivery systems without flow arrest are used in high-flow vascular brain lesions. Techniques using acetic acid to delay polymerization time and "sandwich" techniques in which glue is pushed with dextrose are also more susceptible to this complication.

L30 ANSWER 17 OF 45 MEDLINE
AN 95125782 MEDLINE
DN 95125782
TI [Interventional neuroradiology. A presentation with preliminary results

(see comments)].
Interventionel neur[redacted]diologi. En proesentation med e[redacted] proeliminoere resultater.
CM Comment in: Ugeskr Laeger 1995 Feb 6;157(6):754-6
AU Bartholdy N J; Haase J
CS Radiologisk afdeling, afsnit for interventionel radiologi og neurokirurgisk afdeling, Aalborg Sygehus.
SO UGESKRIFT FOR LAEGER, (1994 Oct 31) 156 (44) 6541-8.
Journal code: WM8. ISSN: 0041-5782.
CY Denmark
DT Journal; Article; (JOURNAL ARTICLE)
LA Danish
EM 199504
AB During two periods (1.1.1981-3.1.1985 and 1.1.1988-31.12.1992) 57 patients were treated or attempted treated with endovascular embolization. The patients suffered either from arteriovenous malformations (AVM), dural arteriovenous malformations (DAVM), carotico-cavernous fistulas (CCF), giant aneurysms or meningenomas. During the first period the balloon-technique was mainly employed and only one isobutyl-2-**cyanoacrylate** (IBCA) embolization was carried out. Six **AVMs** and 11 CCFs were treated, and the complication rate was 33%. During the second period histoacryl/N-butyl-**cyanoacrylate** (NBCA) embolization was the treatment of choice for **AVM** and DAVM, and the balloon technique reserved for CCF and test occlusions. The complication rate was 8%. In 83% of the AVMs occlusion of more than 50% of the nidus was achieved. Three of five CCFs were occluded with one occluded internal carotid artery. There were no complications in test occlusions. Two DAVMs were reduced in size and the symptoms reduced. The patient material during this period consisted of 19 AVMs, two DAVMs, five CCFs, nine giant aneurysms (test occlusion) and five basal meningenomas with involvement of the internal carotid artery (test occlusion). The treatment of these relatively rare patients consists of close cooperation between the interventional neuroradiologist and the neurosurgical team.

L30 ANSWER 18 OF 45 MEDLINE DUPLICATE 11
AN 94055831 MEDLINE
DN 94055831
TI The combined management of cerebral arteriovenous malformations. Experience with 100 cases and review of the literature.
AU Deruty R; Pelissou-Guyotat I; Mottolese C; Bascoulergue Y; Amat D
CS Department of Neurosurgery, Hopital Neurologique, Lyon, France..
SO ACTA NEUROCHIRURGICA, (1993) 123 (3-4) 101-12. Ref: 87
Journal code: 19C. ISSN: 0001-6268.
CY Austria
DT Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LA English
FS Priority Journals
EM 199402
AB A series of 100 patients treated for a cerebral arteriovenous malformation (AVM) is presented. Patients were admitted between 1985 and April 1992. Two groups are considered: the first group including 52 patients treated before the availability of radiosurgery (1985-1988), and the second group including 48 patients treated after the availability of radiosurgery (1989-1992). **AVM**'s were classified in five grades according to the Spetzler's Grading System. Three techniques of treatment were used: surgical resection, intravascular embolization (with **cyanoacrylate**), and radiosurgery (linear accelerator). These three techniques were used either alone or in association, giving four types of management: surgical resection alone, embolization and resection, embolization alone, and radiosurgery (alone, or after embolization, or after surgical resection). From 1989 on, the availability of radiosurgery was responsible for the decrease of the "embolization and resection" group, which until then was predominantly used as well for low-grade (I, II, III) as for high-grade

AVM's (IV, V). Overall, for the low-grade AVM's, the treatment of choice was surgical resection (79% of cases), with pre-operative embolization in one-half of these cases; the other low-grade AVM's were irradiated, with various combinations. For the high-grade AVM's, the treatment of choice was intravascular embolization (95% of cases), either alone, or followed by resection (45%) or radiosurgery (9%). Results were evaluated in terms of deterioration following treatment, in five groups: no deterioration (59%), minor deterioration (20%), long-lasting deficit (10%), major deterioration (5%), and death (6%). Overall, results improved after 1989: favourable outcome (no deterioration and minor deterioration) increased from 67% to 90%. Results were not related to the patients' age. More favourable results were obtained for low-grade AVM's (93%) than for high-grade AVM's (60%). For the low-grade AVM's the evolution from 1989 on (favourable outcomes increasing from 89% to 96%) occurred with the lowering of the mortality rate. For the high-grade AVM's, the evolution from 1989 onwards (favourable outcome increasing from 46% to 78%) occurred with the decrease of the cases with deficits. The angiographic results were strongly related to the management: 95% of complete eradication after surgical resection and 5% only after embolization alone. Concerning the results in irradiated cases, the follow-up is not long enough. The review of the neurosurgical literature since 1972 demonstrates progressive modifications in the therapeutic attitude as regards AVM's. The surgical management which was predominantly used at the beginning gave way progressively to a combined management, with a combination of embolization, surgery, and lately radiosurgery.(ABSTRACT TRUNCATED AT 400 WORDS)

L30 ANSWER 19 OF 45 MEDLINE DUPLICATE 12
AN 93094893 MEDLINE
DN 93094893
TI The effect of embolization with N-butyl cyanoacrylate prior to surgical resection of cerebral arteriovenous malformations.
AU Jafar J J; Davis A J; Berenstein A; Choi I S; Kupersmith M J
CS Department of Neurosurgery, New York University Medical Center, New York..
SO JOURNAL OF NEUROSURGERY, (1993 Jan) 78 (1) 60-9.
Journal code: JD3. ISSN: 0022-3085.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals; Cancer Journals
EM 199303
AB Endovascular therapy of cerebral arteriovenous malformations (AVM's) is an accepted adjunct to surgical therapy. However, the literature has not characterized the benefits or the liabilities of preoperative embolization. This series compares two groups of patients who underwent surgical resection of a cerebral **AVM**; one group (20 patients) received preoperative transfemoral selective embolization with N-butyl **cyanoacrylate** (NBCA) and the other group (13 patients) did not. In the group with preoperative embolization, the **AVM**'s were larger (3.9 vs. 2.3 cm) and of a higher Spetzler-Martin grade (3.2 vs. 2.5) as compared to the nonembolized group. The NBCA embolization facilitated surgical resection. Arteries supplying the vascular malformation were readily distinguished from those supplying the normal brain parenchyma. Embolized vessels were compressible and easily cut with microscissors. No bleeding occurred from transected vessels. Operative time and intraoperative blood loss for the two groups were not statistically different, despite the significant differences in lesion size and grade. Endovascular complications included immediate and delayed hemorrhage (15%) and transient ischemia (5%); there were no embolization-related deaths. Postoperative complications for both groups included hemorrhage (15%), residual AVM (6%), and cerebrospinal fluid leak (3%); the mortality rate was 3%. There was no statistically significant difference in surgical complications between the embolized and nonembolized groups. Most patients (91%) in both groups had an excellent or good late neurological outcome, with no significant difference between the groups. This study concludes

that preoperative NBCA embolization of AVM's makes lesions of larger size and higher grade the surgical equivalent of lesions of smaller size and lower grade by reducing operative time and intraoperative blood loss, with no statistically significant difference in surgical complications or long-term neurological outcome.

L30 ANSWER 20 OF 45 MEDLINE DUPLICATE 13
AN 92396849 MEDLINE
DN 92396849
TI In vivo evaluation of iophendylate-cyanoacrylate mixtures.
AU Widlus D M; Lammert G K; Brant A; Tsue T; Samphillipo M A Jr; Magee C; Starr F L; Anderson J H; White R I Jr
CS Russell H. Morgan Department of Radiology and Radiological Sciences, Johns Hopkins Medical Institutions, Baltimore..
SO RADIOLOGY, (1992 Oct) 185 (1) 269-73.
Journal code: QSH. ISSN: 0033-8419.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals; Cancer Journals
EM 199212
AB Cyanoacrylate glue is a rapidly polymerizing agent used for vascular embolization. Polymerization occurs when the glue comes into contact with ions in the blood or on the vascular endothelium. Mixing iophendylate with **cyanoacrylate** causes slowing of polymerization, allowing flow-directed embolization into the nidus of an arteriovenous malformation (**AVM**) or the central neovascularity of a tumor or hemangioma. The authors attempted to define the relationship between the iophendylate-glue ratio and polymerization time with an in vivo swine model. In this model, glue setup occurred much more rapidly than predicted on the basis of in vitro studies. This appeared to be due to glue polymerizing on the endothelium at vessel bifurcations and at areas of acute angulation or marked vessel narrowing. On the basis of these data, the authors substantially increased the iophendylate-glue ratio in their most recent AVM embolization procedures and achieved nidus occlusion in each case. With use of the authors' guidelines, it is possible to achieve optimal distal flow-directed embolization with cyanoacrylate.

L30 ANSWER 21 OF 45 MEDLINE DUPLICATE 14
AN 91359072 MEDLINE
DN 91359072
TI Embolization of arteriovenous malformations with peripheral aneurysms using ethylene vinyl alcohol copolymer. Report of three cases.
AU Terada T; Nakamura Y; Nakai K; Tsuura M; Nishiguchi T; Hayashi S; Kido T; Taki W; Iwata H; Komai N
CS Department of Neurological Surgery, Wakayama Medical College, Japan..
SO JOURNAL OF NEUROSURGERY, (1991 Oct) 75 (4) 655-60.
Journal code: JD3. ISSN: 0022-3085.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals; Cancer Journals
EM 199112
AB The authors report three cases of arteriovenous malformations (AVM's) with aneurysms arising from the feeding artery; all were successfully treated with a new nonadhesive liquid embolic material, ethylene vinyl alcohol copolymer (EVAL). In two patients the AVM's were totally removed without difficulty, and in one the AVM was managed conservatively after embolization. No new neurological deficits appeared during or after embolization. After road-mapping techniques, EVAL was injected slowly until the feeding artery and aneurysm were completely obliterated. This embolic agent is easy to handle and is considered safe compared with other adhesive liquid embolic agents, such as isobutyl-2-**cyanoacrylate** or n-butyl **cyanoacrylate**. It is concluded that EVAL is an excellent agent for embolizing an **AVM** with a peripheral aneurysm

on the feeding arter[illegible]

L30 ANSWER 22 OF 45 MEDLINE DUPLICATE 15
AN 91359070 MEDLINE
DN 91359070
TI Successful excision of a juvenile-type spinal arteriovenous malformation following intraoperative embolization. Case report.
AU Touho H; Karasawa J; Shishido H; Yamada K; Shibamoto K
CS Department of Neurosurgery, Osaka Neurological Institute, Japan..
SO JOURNAL OF NEUROSURGERY, (1991 Oct) 75 (4) 647-51.
Journal code: JD3. ISSN: 0022-3085.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals; Cancer Journals
EM 199112
AB The case of a 57-year-old woman with a 14-year history of progressive paraparesis is presented. Selective spinal angiography revealed a juvenile-type spinal arteriovenous malformation (AVM) with a typical large size and rapid flow. The **AVM** was located primarily in the retromedullary space at the cervicothoracic junction. The **AVM** was successfully obliterated by intraoperative embolization using isobutyl-2-**cyanoacrylate** and surgical excision.

L30 ANSWER 23 OF 45 EMBASE COPYRIGHT 1999 ELSEVIER SCI. B.V.
AN 91234020 EMBASE
DN 1991234020
TI Endovascular treatment of brain **AVMs** with permanent embolic material (n-butyl-**cyanoacrylate**).
AU Moret J.; Picard L.
CS Department of Interventional Neuroradiology, Fondation A. de Rothschild Hospital, 25-29, Rue Manin, F-75940 Paris, France
SO Rivista di Neuroradiologia, (1991) 4/SUPPL. 1 (85-88).
CODEN: RIVNEJ
CY Italy
DT Journal; Conference Article
FS 008 Neurology and Neurosurgery
014 Radiology
022 Human Genetics
037 Drug Literature Index
LA English

L30 ANSWER 24 OF 45 MEDLINE DUPLICATE 16
AN 90253963 MEDLINE
DN 90253963
TI Embolization of cerebral arteriovenous malformations with bucrylate. Experience in a first series of 29 patients.
AU Berthelsen B; Lofgren J; Svendsen P
CS Department of Diagnostic Radiology, University of Gothenburg, Sweden..
SO ACTA RADIOLOGICA, (1990 Jan) 31 (1) 13-21.
Journal code: ATA. ISSN: 0284-1851.
CY Sweden
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199008
AB The experience with embolization of intracerebral arteriovenous malformations (**AVMs**) with bucrylate (isobutyl-2-**cyanoacrylate**) in 29 patients is reported. In 9 cases (31%) less than 1/3 of the **AVM** nidus was occluded, in 12 (41%) 1/3 to 2/3, in 4 (14%) more than 2/3, and total occlusion was only seen in 3 cases (10%). One patient was never embolized, owing to procedure complications. At follow-up angiography in 20 patients, partial revascularization was found in 11 AVMs and further occlusion in 2. Complications occurred in 11 cases (38%). Five patients (17%) suffered from hemorrhage: 2 died, one

deteriorated severely and 2 recovered. Unintentional embolization or edema resulted in neurological deficits in 6 patients (21%), permanent in 3 and reversible in 3. Symptomatic improvement was initially found in 13 patients (45%) but was stable only in 9. In 9 patients (38%) embolization was followed by elective surgery or irradiation. The best results were obtained in small and medium-sized AVMs (less than 6 cm) while there was a high risk of complications and an uncertain palliative effect in large AVMs.

L30 ANSWER 25 OF 45 MEDLINE DUPLICATE 17
AN 89132241 MEDLINE
DN 89132241
TI Dissolution of isobutyl 2-cyanoacrylate on long-term follow-up.
AU Rao V R; Mandalam K R; Gupta A K; Kumar S; Joseph S
CS Department of Radiology, Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum, India..
SO AJNR. AMERICAN JOURNAL OF NEURORADIOLOGY, (1989 Jan-Feb) 10 (1) 135-41. Journal code: 3AG. ISSN: 0195-6108.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198905
AB Eight patients with arteriovenous malformations (**AVMs**) in the basal ganglionic and deep parietooccipital regions and one patient with an **AVM** in the shoulder region showed resorption of the isobutyl 2-**cyanoacrylate** cast and recanalization of the arteries after delayed follow-up angiography. All the **AVMs** were large, had multiple arterial pedicles, and revealed significant obliteration of the AVM immediately after embolotherapy. Although a 50-75% obliteration was achieved immediately after embolization, follow-up angiography 6-20 months later revealed almost the original status. The residual bucrylate cast was disproportionately small compared with the recanalized malformation in seven patients, while in two patients there was no evidence of bucrylate on plain films. Degradation of bucrylate probably is due to the lysosomal activity of the endothelial cells. The results from our nine patients with some degree of resorption of isobutyl 2-**cyanoacrylate** and six with recanalized **AVMs** 6-20 months after embolization suggest that operable **AVMs** should be excised soon after embolotherapy and inoperable **AVMs** should be embolized as completely as possible.

L30 ANSWER 26 OF 45 MEDLINE DUPLICATE 18
AN 88292101 MEDLINE
DN 88292101
TI Preoperative embolization of brain **AVMs** with isobutyl-2 **cyanoacrylate**.
AU Pelz D M; Fox A J; Vinuela F; Drake C C; Ferguson G G
CS Department of Radiology, University Hospital, University of Western Ontario, London, Canada..
SO AJNR. AMERICAN JOURNAL OF NEURORADIOLOGY, (1988 Jul-Aug) 9 (4) 757-64. Journal code: 3AG. ISSN: 0195-6108.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198811
AB The role of embolization in the management of brain arteriovenous malformations remains controversial. The benefits of embolization alone are not clear and surgical removal may be technically difficult or impossible in many cases. In an attempt to facilitate surgical removal, we performed preoperative embolization in 15 cases using a mixture of isobutyl-2 cyanoacrylate and glacial acetic acid. In one case, a mixture of polyvinyl alcohol particles, microfibrillar collagen, and 30% ethanol was used. In 10 of these cases the surgeon felt that the embolization

significantly aided the operative removal by decreasing blood loss, reducing the size of draining veins, and removing portions of the nidus itself. In no patient did the embolization result in an unanticipated significant neurologic deficit. The major role for embolization in the management of brain arteriovenous malformations may be as an aid to surgical removal.

L30 ANSWER 27 OF 45 MEDLINE DUPLICATE 19
AN 89017895 MEDLINE
DN 89017895
TI Congenital arteriovenous malformations: tailored embolotherapy.
AU Widlus D M; Murray R R; White R I Jr; Osterman F A Jr; Schreiber E R; Satre R W; Mitchell S E; Kaufman S L; Williams G M; Weiland A J
CS Russell H. Morgan Department of Radiology and Radiological Sciences, Johns Hopkins Medical Institutions, Baltimore, MD 21205-2191..
SO RADIOLOGY, (1988 Nov) 169 (2) 511-6.
Journal code: QSH. ISSN: 0033-8419.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals; Cancer Journals
EM 198901
AB Congenital arteriovenous malformations (AVMs) involving the pelvis or an extremity were occluded in 16 symptomatic patients, who subsequently underwent tailored embolotherapy. An additional 11 patients did not undergo embolization due to unfavorable vascular anatomy or lack of significant symptoms. Permanent occlusive agents including isobutyl **cyanoacrylate**, particles of polyvinyl alcohol foam, and coils were used to embolize the multiple feeding vessels and, when possible, the nidus of the **AVM**. All patients experienced dramatic reduction in pain and resolution of ulceration and bleeding, with a mean follow-up period of 41 months. Symptoms recurred in four patients but again resolved with repeat embolization. The authors conclude that selective and repetitive embolization is highly effective in palliation of symptomatic congenital AVMs.

L30 ANSWER 28 OF 45 MEDLINE DUPLICATE 20
AN 88039345 MEDLINE
DN 88039345
TI Intraoperative liquid embolization of an arteriovenous malformation in the basal ganglia and thalamic region.
AU Yamagata S; Kikuchi H; Ihara I; Nagata I; Naruo Y; Shishido H; Itoh M; Hashimoto K; Minamikawa J; Miyamoto S; et al
CS Department of Neurological Surgery, National Cardio-Vascular Center, Osaka, Japan..
SO NO SHINKEI GEKA. NEUROLOGICAL SURGERY, (1987 Jul) 15 (7) 717-23.
Journal code: NYV. ISSN: 0301-2603.
CY Japan
DT Journal; Article; (JOURNAL ARTICLE)
LA Japanese
FS Priority Journals
EM 198802
AB Total three patients with arteriovenous malformation (AVM) in basal ganglia or thalamic region were treated by intraoperative liquid embolizations. These procedures were decided because of repeated hemorrhagic episodes. In the case with AVM in the head of the caudate nucleus which was fed by several anterior perforating arteries originated from anterior cerebral artery (A1 portion) and middle cerebral artery (M1 portion), frontotemporal craniotomy was performed. After the microsurgical dissection of these feeders, one of the feeders lenticulostriate artery, was cannulated with a small-caliber polyethylene catheter, 0.6 mm in outer diameter and 0.3 mm in inner diameter. A small amount of isobutyl 2-**cyanoacrylate** (IBCA) was injected through the catheter. Same procedure was carried out one month later. Postoperative angiograms revealed about 90% loss of **AVM**. In two cases with AVM which

involved almost entire thalamus, subtemporal craniotomy was done. Feeding vessels which originated from posterior communicating artery and posterior cerebral artery (PCA) were carefully dissected under the operative microscope and one of them was prepared for cannulation with small catheter. When the small amount of IBCA was injected, proximal PCA and internal carotid artery were temporarily occluded. In both cases intraoperative embolization was carried out twice. Postoperative angiograms revealed that the size of AVM was decreased to 20% in one and 40% in the other. Although temporary postoperative deterioration of neurological deficits such as hemiparesis and visual disturbance was slightly noted in all cases, no hemorrhagic episode was experienced for 6 months, 1.5 and 2 years in each after embolization.

L30 ANSWER 29 OF 45 EMBASE COPYRIGHT 1999 ELSEVIER SCI. B.V.
AN 87143251 EMBASE
DN 1987143251
TI A dural spinal arteriovenous malformation with epidural venous drainage: A case report.
AU Heier L.A.; Lee B.C.P.
CS Department of Radiology, New York Hospital-Cornell Medical Center, New York, NY 10021, United States
SO American Journal of Neuroradiology, (1987) 8/3 (561-563).
CODEN: AAJNDL
CY United States
DT Journal
FS 014 Radiology
008 Neurology and Neurosurgery
LA English
AB Thoracolumbar spinal angiomas are typically fed by intercostal or lumbar arteries and are drained exclusively by perimedullary veins. Rarely, internal iliac artery branches may supply a spinal arteriovenous malformation (AVM). Epidural venous drainage has not been reported. Only eight cases of spinal AVMs fed by internal iliac branches have been described in the literature. We report a lumbosacral **AVM** supplied by a lateral sacral artery and drained by left epidural veins that was successfully treated by isobutyl 2-**cyanoacrylate** (bucrylate) embolization. The unique venous drainage of this **AVM** raises controversial questions about the pathophysiology of the spinal angiomas.

L30 ANSWER 30 OF 45 MEDLINE DUPLICATE 21
AN 88102831 MEDLINE
DN 88102831
TI The treatment of dural **AVM** by embolization with aron alpha (ethyl-2-**cyanoacrylate**).
AU Sano H; Jain V K; Kato Y; Tanji H; Kanno T; Adachi K; Katada K
CS Department of Neurosurgery, Fujita-Gakuen Health University, School of Medicine, Aichi, Japan..
SO ACTA NEUROCHIRURGICA, (1987) 88 (1-2) 10-9.
Journal code: 19C. ISSN: 0001-6268.
CY Austria
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198804
AB The authors report four cases of dural arteriovenous malformation (AVM) treated by a modified technique of embolization. Three cases had posterior fossa dural AVM and one had bilateral supratentorial dural AVM. The authors think that the best way to treat dural AVM is to close its nidus completely. This could be achieved by a safe and easy technique of embolization. The material used for embolization should intimately adhere to the vascular network and should not become fragmented. We used aron alpha (Ethyl-2-cyanoacrylate). This is a biological glue and it sets in a solid membranous form instantaneously on coming into the contact with an ionic medium. It does not get fragmented. Aron alpha was injected into the

nidus of the AVM through a cannula inserted only into the main feeding artery in four cases of dural AVM reported here. Post[redacted]ative angiography showed complete obli[redacted]ation of the AVM's, they did not fill either from the treated artery or from the untreated feeding arteries. The technique is easy and safe. There was no operative or postoperative complication. All the patients have remained asymptomatic to date, i.e. 2, 2, 6 and 7 1/2 years after the procedure.

L30 ANSWER 31 OF 45 MEDLINE DUPLICATE 22
AN 87045723 MEDLINE
DN 87045723
TI Angiographic follow-up of large cerebral **AVMs** incompletely embolized with isobutyl-2-**cyanoacrylate**.
AU Vinuela F; Fox A J; Pelz D; Debrun G
SO AJNR. AMERICAN JOURNAL OF NEURORADIOLOGY, (1986 Sep-Oct) 7 (5) 919-25. Journal code: 3AG. ISSN: 0195-6108.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198702
AB This study evaluated the long-term angiographic results in large cerebral arteriovenous malformations (**AVMs**) partially embolized with isobutyl-2-**cyanoacrylate**. Preembolization, immediate postembolization, and long-term follow-up angiograms were performed in 30 large, partially embolized brain **AVMs**. Particular attention was paid to the relative size of the residual AVM nidus and the embolized arterial feeders, to recruitment of new feeders, to the size of residual draining veins, and to the speed of arteriovenous shunt. Nine cases with less than 50% AVM nidus obliteration showed no significant morphologic changes. In 18 cases with 50-75% obliteration of the AVM nidus, 11 (61.1%) showed no significant changes, six (33.3%) showed enlargement of the AVM nidus, and one (5.5%) evolved to complete angiographic obliteration. In three cases with 75-99% AVM nidus obliteration, one remained unchanged, one showed an increase in the size of the **AVM** nidus, and one evolved to complete obliteration. Evaluation by plain film, CT, and cerebral angiography of the isobutyl-2-**cyanoacrylate** deposits showed that when the polymer was positioned predominantly in arterial feeders there was invariably reconstitution of the **AVM** nidus through leptomeningeal, deep medullary, and/or dural collaterals. This phenomenon did not occur when the isobutyl-2-**cyanoacrylate** was deposited mainly in the **AVM** nidus.

L30 ANSWER 32 OF 45 MEDLINE
AN 86311639 MEDLINE
DN 86311639
TI Intra-operative embolization of cerebral arteriovenous malformations by means of isobutylcyanoacrylate (experience in 20 cases).
AU Deruty R; Lapras C; Patet J D; Bascoulergue Y; Pialat J; Honorato D
SO NEUROLOGICAL RESEARCH, (1986 Jun) 8 (2) 109-13. Journal code: NY9. ISSN: 0161-6412.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198612
AB 20 cases of cerebral arteriovenous malformations (**AVM**'s) are reported, treated by direct intraoperative embolization. A 50% mixture of butyl-2-**cyanoacrylate** (IBC) and ethyl mono-iodostearate (Duroliopaque) was used. The clinical history of the patients was a long history of seizures in 10 cases, a haemorrhage in 9 cases, and a motor deficit in 1 case. In the immediate post-operative course, 1 patient died, 3 patients had a serious post-operative haemorrhage, 6 patients presented with a transient post-operative deficit, and in 10 patients the post-operative course was uneventful. During the following years, a late

haemorrhage occurred after incomplete AVM eradication in 3 patients, leading to AVM resection. The AVM eradication was eventually complete in 3 cases with embolization only, and in 7 cases with embolization and AVM resection. The overall management of AVM in all 20 patients was: embolization only in 13 cases, embolization and resection in 7 cases. The long term results are: operative death 1, late death 3, long lasting deficit 1; uneventful 15. The authors discuss the technique of embolization, the effect of IBC on the vessel walls, the evolution of their general management of AVM's after this experience. Eventually the intra-operative embolization may be helpful after incomplete intra vascular embolization, to facilitate the AVM eradication.

L30 ANSWER 33 OF 45 MEDLINE
AN 86285512 MEDLINE
DN 86285512
TI Intraoperative embolization of cerebral arteriovenous malformations.
AU van Alphen H A
SO NEUROSURGICAL REVIEW, (1986) 9 (1-2) 77-86.
Journal code: N0V. ISSN: 0344-5607.
CY GERMANY, WEST: Germany, Federal Republic of
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198611
AB Nineteen patients with large cortical or deep seated cerebral arteriovenous malformation (**AVM**) were treated with intraoperative embolization using bucrylate (isobutyl-2-**cyanoacrylate**, IBC). In three cases of medium-sized **AVM**, the procedure was followed by a total excision of the lesion during the same operation. The results were excellent. In one case a hematoma and brain swelling following embolization necessitated total removal immediately afterwards. In eight patients embolization was carried out in two or three stages, to achieve a gradual obliteration of the shunt and to diminish the risk of postoperative brain swelling. Nevertheless, in three of these patients, postoperative hemiplegia was seen, which, however, improved considerably over a 1-2 year period. Complete occlusion of the shunt was obtained in only two patients. Seven patients underwent single-stage embolization, which resulted in partial obliteration of the AVM in six of them. In two of these, this treatment had been proposed for the accompanying symptoms of seizures and ischemic attacks. In all but one case the epileptic seizures decreased or disappeared completely after embolization. One patient suffered intracerebral bleeding three months after partial obliteration. Mortality was zero. It is argued that an alteration of the cerebral circulation with subsequent hyperemia is the most important sequela of rapid obliteration of large AVMs. Some details concerning the structure of cerebral AVMs are discussed.

L30 ANSWER 34 OF 45 MEDLINE DUPLICATE 23
AN 85263866 MEDLINE
DN 85263866
TI Morphological studies of human arteriovenous malformations. Effects of isobutyl 2-cyanoacrylate embolization.
AU Klara P M; George E D; McDonnell D E; Pevsner P H
SO JOURNAL OF NEUROSURGERY, (1985 Sep) 63 (3) 421-5.
Journal code: JD3. ISSN: 0022-3085.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals; Cancer Journals
EM 198511
AB Ten patients with symptomatic arteriovenous malformations (**AVM**'s) underwent embolization with isobutyl 2-**cyanoacrylate** (Bucrylate) delivered via a mini-balloon catheter according to the protocol of George and Pevsner. These patients underwent surgical removal of their embolized **AVM**, and surgical specimens were evaluated by

light and scanning electron microscopy. Ten other patients with AVM's underwent surgical resection without prior embolization and these surgical specimens were evaluated in a similar manner. Results from this study indicate that Bucrylate incites an inflammatory response characterized by foreign-body giant cells. This reaction was present as early as 3 weeks after embolization and persisted in specimens resected almost 1 year after the last embolization. No such reaction was observed in unembolized AVM's. Both light and scanning electron microscopy demonstrated a lattice structure of the Bucrylate embolus within the AVM vessels. These studies also demonstrated micro-channels within the Bucrylate embolus and the presence of what appears to be normal red blood cells within the latticework of the embolus. Vascular endothelium not in direct contact with the Bucrylate embolus retains a normal morphology as revealed by scanning electron microscopy.

L30 ANSWER 35 OF 45 MEDLINE
AN 85214133 MEDLINE
DN 85214133
TI [Peroperative embolization of cerebral arteriovenous malformations with butylcyanoacrylate (18 cases)].
Embolisation peroperatoire des malformations arterio-veineuses cerebrales par le butyl-cyanoacrylate (18 cas).
AU Deruty R; Lapras C; Pierluca P; Patet J D; Pialat J; Bascoulergues Y; Garcia C
SO NEURO-CHIRURGIE, (1985) 31 (1) 21-9.
Journal code: NXW. ISSN: 0028-3770.
CY France
DT Journal; Article; (JOURNAL ARTICLE)
LA French
FS Priority Journals
EM 198509
AB 18 cases of cerebral Arterio-Venous malformations (**AVM**) are reported, treated by direct intra-operative embolisation. A 50% mixture of Butyl-2-**Cyanoacrylate** and Mono-Iodo-Stearate of Ethyl was used.
The clinical history of the patients was a long history of seizures in 8 cases a sub-arachnoid or intra-cerebral hemorrhage in 9 cases, and a transient motor deficit in 1 case. The AVM site was supra-tentorial in 16 cases, and infra-tentorial in 2 cases. The AVM size was large with numerous feeders in 13 cases, and limited with a few feeders in 5 cases. Technically, after catheterisation of a cortical feeder, an intra-operative angiogram was performed (except for the first 6 cases) then the polymerizing mixture was pushed inside the feeder (from 1 cc to 3 cc routinely, depending of the AVM size; exceptionally 7 cc and 11 cc were used). In the immediate postoperative course, 1 patient died (case with the 11 cc embolization), 3 patients had a serious postoperative hemorrhage, 4 patients presented with a transient postoperative deficit, and in 10 patients the postoperative course was uneventful. The long term results are: 1 postoperative death, 1 death after recurrence of intra-cerebral hemorrhage (3 years postoperatively), 1 hemiplegia, 15 patients without long lasting complication. The embolization was performed as unique treatment in 14 cases, and was followed with the AVM removal in 4 cases (immediately in 1 case, delayed in 1 case, late after recurrence of intra-cerebral hemorrhage in 2 cases, respectively after 3 years and 2 years).(ABSTRACT TRUNCATED AT 250 WORDS)

L30 ANSWER 36 OF 45 MEDLINE DUPLICATE 24
AN 84187665 MEDLINE
DN 84187665
TI Spontaneous carotid-cavernous fistulas: clinical, radiological, and therapeutic considerations. Experience with 20 cases.
AU Vinuela F; Fox A J; Debrun G M; Peerless S J; Drake C G
SO JOURNAL OF NEUROSURGERY, (1984 May) 60 (5) 976-84.
Journal code: JD3. ISSN: 0022-3085.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)

LA English
FS Abridged Index Medic[redacted]Journals; Priority Journals; O[redacted]r Journals
EM 198408
AB Sixty-five carotid-cavernous fistulas were studied at University Hospital, London, Canada, from 1978 to 1982, 20 of which fulfilled the clinical and angiographic criteria of a spontaneous carotid-cavernous fistula. Of these 20 fistulas, 17 were unilateral, and three were bilateral. In 18 cases the angiographic findings were typical of an arteriovenous malformation (AVM), and in two a ruptured giant intracavernous aneurysm was found. These patients were treated according to whether they had a nonresolving or progressive cavernous sinus syndrome or deterioration of vision. The cavernous dural **AVM**'s were treated with polyvinyl-alcohol and/or isobutyl-2-**cyanoacrylate** (IBCA) embolization of the external carotid artery blood supply. Two patients underwent postembolization surgical procedures. The detachable balloon technique was used to occlude the fistulas associated with the two giant ruptured intracavernous aneurysms and a small dural intracavernous AVM. Eight patients received no therapy; in two, spontaneous obliteration of the fistula occurred. Of the nine cavernous AVM's embolized with particles and/or IBCA, successful transvascular embolization was achieved in seven cases, and partial embolization followed by surgery in two cases. Successful balloon obliteration of the giant intracavernous ruptured aneurysm was obtained in two cases. In one patient, right hemiplegia with aphasia resulted from reflux of IBCA emboli through the artery of the foramen rotundum into the left middle cerebral artery.

L30 ANSWER 37 OF 45 MEDLINE DUPLICATE 25
AN 85128991 MEDLINE
DN 85128991
TI Isobutyl-2-cyanoacrylate pulmonary emboli associated with occlusive embolotherapy of cerebral arteriovenous malformations.
AU Coard K; Silver M D; Perkins G; Fox A J; Vinuela E V
SO HISTOPATHOLOGY, (1984 Nov) 8 (6) 917-26.
Journal code: GB4. ISSN: 0309-0167.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198506
AB Three patients had cerebral arteriovenous malformations (**AVM**) treated by occlusive embolotherapy using isobutyl-2-**cyanoacrylate** (IBC). At necropsy two had asymptomatic IBC pulmonary emboli. The numbers of emboli and the size of pulmonary vessels occluded correlated roughly with an increasing frequency and volume of injectate made in the cerebral tissue. The extent of pulmonary vascular occlusion in one case suggests that pulmonary vascular hypertension could develop as a complication of this form of treatment.

L30 ANSWER 38 OF 45 MEDLINE DUPLICATE 26
AN 85043426 MEDLINE
DN 85043426
TI Preembolization superselective angiography: role in the treatment of brain arteriovenous malformations with isobutyl-2 cyanoacrylate.
AU Vinuela F; Fox A J; Debrun G; Pelz D
SO AJNR. AMERICAN JOURNAL OF NEURORADIOLOGY, (1984 Nov-Dec) 5 (6) 765-9.
Journal code: 3AG. ISSN: 0195-6108.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198502
AB Transfemoral and intraoperative embolization of arteriovenous malformations (**AVMs**) of the brain with isobutyl-2 **cyanoacrylate** may achieve complete and permanent occlusion of the **AVMs**. The preembolization superselective angiogram is an important

source of information to decrease potential technical or clinical complications while reaching that goal. The information obtained from the angiogram of each individual feeder may be classified as anatomical, dynamic, and functional. This angiogram is performed either through a calibrated-leak balloon glued to a Silastic tubing, which is capable of negotiating cortical arterial curves, or through a short catheter directly placed into a feeder at surgery. In 64 patients, 175 preembolization superselective angiograms were obtained. Of those, 105 were obtained using the transfemoral technique, and 70 were obtained by direct catheterization after a craniotomy. Complications occurred in eight patients with only one permanent injury. Transient neurologic deficit occurred in five patients. One patient developed a permanent left monoplegia and one patient a subarachnoid hemorrhage without permanent neurologic deficit. In one patient, a delayed intracerebral hemorrhage produced a right hemiplegia and aphasia. The patient fully recovered in 6 months.

L30 ANSWER 39 OF 45 MEDLINE
AN 84101189 MEDLINE
DN 84101189
TI Progressive thrombosis of brain arteriovenous malformations after embolization with isobutyl 2-cyanoacrylate.
AU Vinuela F; Fox A J; Debrun G; Drake C G; Peerless S J; Girvin J P
SO AJNR. AMERICAN JOURNAL OF NEURORADIOLOGY, (1983 Nov-Dec) 4 (6) 1233-8. Journal code: 3AG. ISSN: 0195-6108.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198404
AB Embolization of brain arteriovenous malformations (**AVMs**) with isobutyl 2-**cyanoacrylate** (IBCA) is an alternative to surgical treatment when dealing with large **AVMs** with multiple arterial feeders. The deposition of IBCA in the nidus of the **AVM** may produce an active and progressive thrombosis that may lead to complete occlusion of the nidus and/or to progressive thrombosis of the draining veins. Four clinical examples of progressive thrombosis after IBCA embolization are demonstrated, including two cases in which late follow-up angiography showed complete obliteration of a partly embolized AVM.

L30 ANSWER 40 OF 45 MEDLINE DUPLICATE 27
AN 83279695 MEDLINE
DN 83279695
TI Dominant-hemisphere arteriovenous malformations: therapeutic embolization with isobutyl-2-cyanoacrylate.
AU Vinuela F V; Debrun G M; Fox A J; Girvin J P; Peerless S J
SO AJNR. AMERICAN JOURNAL OF NEURORADIOLOGY, (1983 Jul-Aug) 4 (4) 959-66. Journal code: 3AG. ISSN: 0195-6108.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198311
AB Embolization treatment of 16 patients with dominant-hemisphere arteriovenous malformations (**AVMs**) is described. This group was selected from 50 patients with brain **AVMs** embolized with isobutyl 2-**cyanoacrylate** (IBC-2) over a period of 3 years. All 16 **AVMs** were cortical in location; six involved the rolandic and speech areas, and four had a deep component. Ten AVMs were embolized through a transfemoral approach, an intraoperative approach was used for four cases, and a combined transfemoral/intraoperative approach was used in two cases. Complete obliteration of the AVM was obtained in one case. Partial obliteration and complete surgical resection was obtained in three cases. Obliteration of 70%-95% of the AVM was obtained in six cases and 45%-70% of the AVM was obliterated in six cases. IBC-2 embolization of the venous drainage was observed in three cases. After embolization, eight

patients remained neurologically unchanged. Three patients had mild neurologic deficits [redacted] resolved completely within 4[redacted]; one had a deficit that cleared up 1 week later; and one had a deficit that disappeared within 6 months. In three patients a mild permanent neurologic deficit was evident 6 months after embolization.

L30 ANSWER 41 OF 45 EMBASE COPYRIGHT 1999 ELSEVIER SCI. B.V.
AN 83175953 EMBASE
DN 1983175953
TI Acute pulmonary embolism during therapeutic arterial embolization with silicone fluids.
AU Capan L.M.; Lardizabal S.; Sinha K.; et al.
CS Dep. Anesthesiol. Radiol., New York Univ. Med. Cent., New York, NY 10016, United States
SO Anesthesiology, (1983) 58/6 (569-571).
CODEN: ANESAV
CY United States
DT Journal
FS 038 Adverse Reactions Titles
037 Drug Literature Index
015 Chest Diseases, Thoracic Surgery and Tuberculosis
018 Cardiovascular Diseases and Cardiovascular Surgery
009 Surgery
014 Radiology
024 Anesthesiology
LA English
AB Arterial embolization with gelfoam, silicone spheres, polyvinyl alcohol foam (PVA), isobutyl-2-**cyanoacrylate** (IBCA), or silicon fluid mixtures, has been used clinically to terminate the blood supply of arteriovenous malformations (**AVM**).(1-6) Serious pulmonary embolization with this method usually does not occur because most of the embolizng substance is trapped within the malformation leaving only a small quantity to reach the pulmonary circulation. However, the authors describe a patient who developed severe pulmonary embolism with silicone liquid during this procedure.

L30 ANSWER 42 OF 45 MEDLINE DUPLICATE 28
AN 83298020 MEDLINE
DN 83298020
TI Posterior dural arteriovenous malformations in infancy.
AU Albright A L; Latchaw R E; Price R A
SO NEUROSURGERY, (1983 Aug) 13 (2) 129-35.
Journal code: NZL. ISSN: 0148-396X.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198312
AB A 23-month-old infant with an extensive dural arteriovenous malformation (AVM) developed a heart murmur and cardiomegaly. The AVM involved the occipital and suboccipital dura mater and the tentorium, bilaterally. We embolized the **AVM** with Gelfoam and polyvinyl alcohol particulates, subtotally resected it, and embolized residual vessels with isobutyl **cyanoacrylate**. In spite of this extensive therapy, the malformation was not totally eradicated and an occipital pial **AVM** developed. This infant and the eight infants with posterior dural AVMs reported previously emphasize the difficulty of eradicating these lesions in infancy. We contrast the clinical features and therapy of infants and adults with posterior dural AVMs. Infants develop heart failure and cranial bruits because of arteriovenous shunts, whereas adults complain of headache and intracranial bruits. Infants need therapy to prevent progressive heart failure, intracranial hypertension, and perhaps cerebral ischemia. Ligation of arterial tributaries is inadequate therapy for these lesions. Embolization and resection of the malformation, when feasible, offers the best chance of curing posterior dural AVMs with extensive

arterial tributaries.

L30 ANSWER 43 OF 45 MEDLINE
AN 83089244 MEDLINE
DN 83089244
TI Artificial embolization with cyanoacrylate for the treatment of the extracranial arteriovenous malformation.
AU Yamaki T; Yoshino E; Uchibori M; Odake G; Hirakawa K
SO NO SHINKEI GEKA. NEUROLOGICAL SURGERY, (1982 Sep) 10 (9) 991-5. Journal code: NYV. ISSN: 0301-2603.
CY Japan
DT Journal; Article; (JOURNAL ARTICLE)
LA Japanese
FS Priority Journals
EM 198304
AB Two cases of the extracranial arteriovenous malformation (**AVM**) were treated by intra-arterial injection of **cyanoacrylate** (Aron alpha A). The first case was a 31-year-old man who had an **AVM** in the left temporal muscle. At operation, the feeders, the left anterior and posterior deep temporal arteries, were exposed and Aron alpha A was injected into these feeders. The pulsation of the AVM disappeared and the AVM became a hard mass. The mass was totally removed with remarkably little amount of bleeding. No complication was noted. The second case was a 23-year-old man who had an AVM in the scalp, and its feeder was the left occipital artery. The treatment was done in the same manner as in the first case. After operation the regional scalp became necrotic, but the epithelialization was completed in 3 weeks. No signs of recurrence of AVM were noted 20th and 21th month after operation in each of the cases. The recent literature were briefly reviewed.

L30 ANSWER 44 OF 45 MEDLINE DUPLICATE 29
AN 82245789 MEDLINE
DN 82245789
TI The clinical application of intracranial artery canulation technique (author's transl).
AU Negoro M; Berenstein A
SO NO SHINKEI GEKA. NEUROLOGICAL SURGERY, (1982 Mar) 10 (3) 271-7. Journal code: NYV. ISSN: 0301-2603.
CY Japan
DT Journal; Article; (JOURNAL ARTICLE)
LA Japanese
FS Priority Journals
EM 198211
AB The introduction of the microscope into the neurosurgical operating theater brought the significant change on its operative results. However, even by means of the meticulous microsurgical techniques, certain intracranial lesion like deep-seated AVM cannot yet be successfully treated. Instead of the extravascular approach, intravascular treatment of these lesions has been evolved and become the great aid for the therapeutic purpose. In 1974 Serbinenko published his excellent work about his detachable balloon catheter technique. He succeeded in treating the intracranial lesions by the intravascular approach with the more exact manner than before. The balloon could make it possible to guide the small catheter into the distal branch of intracranial arteries. And also the balloon was detached and use as embolus. Until now, various balloon catheters become clinically available. Among them the catheter which Kerber devised is made of soft silicone and equipped with microballoon at the distal end. Although the balloon itself cannot be detached, it has a small hole at its top and can deliver the fluid through this opening (calibrated leak). The method for this catheter usage is as follows. Using Seldinger technique, the non-tapered thin wall catheter has to be placed on the proximal side of the attempted artery as the introducing catheter. Through it, balloon catheter is cannulated coaxically and navigated more distally with the inflation or deflation of the balloon. Clinical application of this catheter include the superselective angiography, drug

infusion and selective embolization. For the embolization, fluid embolus must be chosen. At the time **cyanoacrylate**, a potent tissue adhesive, is used as the embolus and injected with the mixture of Pantopaque and tantalum powder. Two cases of deep seated cerebral **AVM** were treated by selective embolization. AVM was completely occluded in one case, in the other case the embolization was interrupted because of worsening of neurologic defecits. In conclusion, the calibrated leak balloon catheter (Kerber) has wide range of clinically applicable potential and will become the great aid for the intravascular treatment.

L30 ANSWER 45 OF 45 MEDLINE DUPLICATE 30
AN 81149166 MEDLINE
DN 81149166
TI Intravascular use of isobutyl 2-cyanoacrylate: Part 1 Treatment of intracranial arteriovenous malformations.
AU Samson D; Ditmore Q M; Beyer C W Jr
SO NEUROSURGERY, (1981 Jan) 8 (1) 43-51.
Journal code: NZL. ISSN: 0148-396X.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198107
AB The intravascular use of the rapidly polymerizing acrylic compound, isobutyl 2-**cyanoacrylate** (IBC), in 10 patients with intracranial arteriovenous malformations (**AVMs**) is described. The monomer was introduced into each malformation at craniotomy using angiographic control and microvascular dissection technique to identify, isolate, and inject the major components of each vascular lesion while attempting to preserve normal arterial circulation. Postoperative angiography was used routinely to evaluate the results of IBC embolization. Four patients underwent the injection and immediate surgical excision of an intracranial AVM, and 6 underwent injection alone; 3 of the latter had residual malformation demonstrated on postoperative angiography, and 1 of these patients had the remnants of her malformation occluded by a second embolic procedure. There was no operative mortality nor permanent neurological morbidity. Three patients suffered transient neurological dysfunction in the immediate postoperative period.

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L21 23 L20/BI

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69887 GOLD
L22 3 L21 AND GOLD

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L22 ANSWER 1 OF 3 USPATFULL
AN 88:8363 USPATFULL
TI Brushing cyanoacrylates: packaging and method
IN Russo, Libby J., 3122 Bandera Dr., Palo Alto, CA, United States 94304
PI US 4724177 19880209
AI US 1987-31388 19870327 (7)
RLI Division of Ser. No. US 1986-879820, filed on 26 Jun 1986, now patented, Pat. No. US 4687827
DT Utility
EXNAM Primary Examiner: Beck, Shrive P.
LREP Anderson, Clifton L.
CLMN Number of Claims: 4
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 366

L22 ANSWER 2 OF 3 USPATFULL
AN 87:58641 USPATFULL
TI Brushing cyanoacrylates: packaging and method
IN Russo, Libby J., 3122 Bandera Dr., Palo Alto, CA, United States 94304
PI US 4687827 19870818
AI US 1986-879820 19860626 (6)
DT Utility
EXNAM Primary Examiner: Beck, Shrive P.
CLMN Number of Claims: 7
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 368

L22 ANSWER 3 OF 3 USPATFULL
AN 76:10139 USPATFULL
TI Cross-linked cyanoacrylate adhesive compositions
IN Overhults, Wendell C., East Brunswick, NJ, United States
PA Johnson & Johnson, East Brunswick, NJ, United States (U.S. corporation)
PI US 3940362 19760224
AI US 1972-257036 19720525 (5)
DT Utility
EXNAM Primary Examiner: Lieberman, Allan
CLMN Number of Claims: 26
ECL Exemplary Claim: 1
DRWN No Drawings

LN.CNT 576
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> d l21 1-23 cbib

L21 ANSWER 1 OF 23 USPATFULL
1998:69069 Composition and methods for stimulating hair growth.
Nielsen, Thor Bagger, 5302 Crestedge La., Rockville, MD, United States 20853
Sun, Liying, 854 Quince Orchard Blvd. 102, Gaithersburg, MD, United States 20878
US 5767152 19980616
APPLICATION: US 1995-434994 19950504 (8)
DOCUMENT TYPE: Utility.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L21 ANSWER 2 OF 23 USPATFULL
96:22907 Pharmaceutical compositions containing nanocapsules.
Vranckx, Henri, Brussels, Belgium
Demoustier, Martine, Brussels, Belgium
Deleers, Michel, Linkebeek, Belgium
U C B S.A., Brussels, Belgium (non-U.S. corporation)
US 5500224 19960319
APPLICATION: US 1994-179205 19940110 (8)
PRIORITY: GB 1993-875 19930118
DOCUMENT TYPE: Utility.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L21 ANSWER 3 OF 23 USPATFULL
95:100771 Tack for intraocular drug delivery and method for inserting and removing same.
Weiner, Alan L., Cranbury, NJ, United States
Sinnett, Kevin, Mukwonago, WI, United States
Johnson, Sterling, Skillman, NJ, United States
Escalon Ophthalmics, Inc., Skillman, NJ, United States (U.S. corporation)
US 5466233 19951114
APPLICATION: US 1994-232895 19940425 (8)
DOCUMENT TYPE: Utility.

L21 ANSWER 4 OF 23 USPATFULL
95:20513 Ocular insert with anchoring protrusions.
Darougar, Sohrab, Croydon, England
Weiner, Alan L., Cranburry, NJ, United States
Escalon Ophthalmics, Inc., Skillman, NJ, United States (U.S. corporation)
US 5395618 19950307
APPLICATION: US 1994-243915 19940517 (8)
PRIORITY: GB 1986-23661 19861002
GB 1990-26888 19901211
DOCUMENT TYPE: Utility.

L21 ANSWER 5 OF 23 USPATFULL
94:53291 Ocular insert with anchoring protrusions.
Darougar, Sohrab, 2 Digby Pl., Croydon CR0 5QR, England
Weiner, Alan L., 28 Priory Rd., Cranburry, NJ, United States 08512
US 5322691 19940621
APPLICATION: US 1993-83303 19930629 (8)
PRIORITY: GB 1986-23661 19861002
GB 1990-26888 19901211
DOCUMENT TYPE: Utility.

L21 ANSWER 6 OF 23 USPATFULL
93:31286 Photosensitive resin composition.
Kumada, Teruhiko, Hyogo, Japan

L21 ANSWER 13 OF 23 USPATFULL
87:58641 Brushing cyanoacrylates: packaging and method.
Russo, Libby J., 3122 Bandera Dr., Palo Alto, CA, United States 94304
US 4687827 19870818
APPLICATION: US 1986-879820 19860626 (6)
DOCUMENT TYPE: Utility.

L21 ANSWER 14 OF 23 USPATFULL
87:28227 Process for applying a sealing composition.
Jimenez, Rene C., Tampa, FL, United States
Renbec International Corp., Tampa, FL, United States (U.S. corporation)
US 4659589 19870421
APPLICATION: US 1985-747326 19850621 (6)
DOCUMENT TYPE: Utility.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L21 ANSWER 15 OF 23 USPATFULL
83:61376 Method for removing cyanoacrylate adhesives from surfaces.
Lazar, Warren G., 8401 N. Rancho Catalina Dr., Tucson, AZ, United States 85704
US 4422883 19831227
APPLICATION: US 1982-430798 19820930 (6)
DOCUMENT TYPE: Utility.

L21 ANSWER 16 OF 23 USPATFULL
83:42794 Colored cyanoacrylate adhesive composition.
Nakata, Tiaki, Ibaraki, Japan
Kawazoe, Noriyuki, Motomachi, Japan
Takenaka, Toshio, Toyono, Japan
Sumitomo Chemical Company, Ltd., Osaka, Japan (non-U.S. corporation)Taoka Chemical Company, Ltd., Osaka, Japan (non-U.S. corporation)
US 4405750 19830920
APPLICATION: US 1982-417155 19820913 (6)
DOCUMENT TYPE: Utility.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L21 ANSWER 17 OF 23 USPATFULL
83:29169 2-Cyanoacrylate adhesive composition.
Kimura, Kaoru, Kuroishi, Japan
Sugiura, Kyoji, Nagoya, Japan
Toagosei Chemical Industry Co., Ltd., Tokyo, Japan (non-U.S. corporation)
US 4393183 19830712
APPLICATION: US 1981-329918 19811211 (6)
PRIORITY: JP 1980-176502 19801216
DOCUMENT TYPE: Utility.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L21 ANSWER 18 OF 23 USPATFULL
82:61506 Novel 2-cyanoacrylate, process for producing same and curable composition comprising same.
Kimura, Kaoru, Kuroishi, Japan
Sakabe, Kazuyuki, Tokai, Japan
Toagosei Chemical Industry Co., Ltd., Tokyo, Japan (non-U.S. corporation)
US 4364876 19821221
APPLICATION: US 1981-244276 19810316 (6)
PRIORITY: JP 1980-38174 19800327
DOCUMENT TYPE: Utility.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L21 ANSWER 19 OF 23 USPATFULL
82:5711 Instant-setting adhesive composition.
Teramoto, Toshio, Yokohama, Japan
Ijuin, Noriaki, Kawasaki, Japan
Kotani, Teizo, Yokohama, Japan

Tanaka, Youko, Hyogo, Japan
Horibe, Hideo, Hyogo, Japan
Kubota, Shigeru, Hyogo, Japan
Koezuka, Hiroshi, Hyogo, Japan
Mitsubishi Denki Kabushiki Kaisha, Tokyo, Japan (non-U.S. corporation)
US 5204218 19930420
APPLICATION: US 1991-717281 19910617 (7)
PRIORITY: JP 1990-160630 19900619
JP 1991-132472 19910604
DOCUMENT TYPE: Utility.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L21 ANSWER 7 OF 23 USPATFULL
92:76623 Ocular insert for the fornix.
Darougar, Sohrab, 2 Digby Place, Croydon CR0 5RQ, England
US 5147647 19920915
APPLICATION: US 1990-626001 19901212 (7)
DOCUMENT TYPE: Utility.

L21 ANSWER 8 OF 23 USPATFULL
91:58999 Adhesive composition.
Katsumura, Tasuo, Hyogo, Japan
Inamura, Tadashi, Hyogo, Japan
Kajigaki, Eizo, Osaka, Japan
Takeda Chemical Industries, Ltd., Osaka, Japan (non-U.S. corporation)
US 5034456 19910723
APPLICATION: US 1990-496692 19900321 (7)
PRIORITY: JP 1989-72740 19890324
DOCUMENT TYPE: Utility.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L21 ANSWER 9 OF 23 USPATFULL
88:36066 Two-component sealant composition.
Jimenez, Rene C., Tampa, FL, United States
Renbec International Corp., Brooksville, FL, United States (U.S. corporation)
US 4749730 19880607
APPLICATION: US 1986-926225 19861103 (6)
DOCUMENT TYPE: Utility.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L21 ANSWER 10 OF 23 USPATFULL
88:32615 Process for applying a sealant composition.
Hogen-Esch, Thieo E., Gainesville, FL, United States
Renbec International Corp., Brooksville, FL, United States (U.S. corporation)
US 4746544 19880524
APPLICATION: US 1987-195 19870102 (7)
DOCUMENT TYPE: Utility.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L21 ANSWER 11 OF 23 USPATFULL
88:29290 Method for repairing a rupture in a metal or plastic surface.
Jimenez, Rene C., Tampa, FL, United States
Renbec International Corp., Tampa, FL, United States (U.S. corporation)
US 4743468 19880510
APPLICATION: US 1987-10724 19870204 (7)
DOCUMENT TYPE: Utility.

L21 ANSWER 12 OF 23 USPATFULL
88:8363 Brushing cyanoacrylates: packaging and method.
Russo, Libby J., 3122 Bandera Dr., Palo Alto, CA, United States 94304
US 4724177 19880209
APPLICATION: US 1987-31388 19870327 (7)
DOCUMENT TYPE: Utility.

Japan Synthetic Rubber Co., Ltd., Tokyo, Japan (non-U.S. corporation)
US 4313865 19820202
APPLICATION: US 1980-[redacted]909 19800923 (6)
PRIORITY: JP 1979-125070 19790928
DOCUMENT TYPE: Utility.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L21 ANSWER 20 OF 23 USPATFULL
76:10139 Cross-linked cyanoacrylate adhesive compositions.
Overhults, Wendell C., East Brunswick, NJ, United States
Johnson & Johnson, East Brunswick, NJ, United States (U.S. corporation)
US 3940362 19760224
APPLICATION: US 1972-257036 19720525 (5)
DOCUMENT TYPE: Utility.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L21 ANSWER 21 OF 23 USPATFULL
75:37810 Underwater adhesive.
Leonard, Fred, 7713 Beech Tree Rd., Bethesda, MD, United States 20034
Brandes, George, 30 Sidonia Ave., Coral Gables, FL, United States 33134
US 3896077 19750722
APPLICATION: US 1970-93903 19701130 (5)
DOCUMENT TYPE: Utility.

L21 ANSWER 22 OF 23 USPATFULL
73:16587 CYANOACRYLATE ADHESIVE COMPOSITIONS.
Coover, Jr., Harry W., Kingsport, TN, United States
McIntire, John M., Kingsport, TN, United States
Eastman Kodak Company, Rochester, NY, United States (U.S. corporation)
US 3728375 19730417
APPLICATION: US 1971-142816 19710512 (5)
DOCUMENT TYPE: Utility.

L21 ANSWER 23 OF 23 USPATFULL
71:32206 UNDERWATER ADHESIVE PROCESS.
Leonard, Fred, 7713 Beech Tree Road, Bethesda, MD, United States 20034
Brandes, George, 8750 Georgia Ave., Silver Spring, MD, United States 20910
US 3607542 19710921
APPLICATION: US 1969-857538 19690912 (4)
DOCUMENT TYPE: Utility.